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VICTORIA · · · AUSTRALIA

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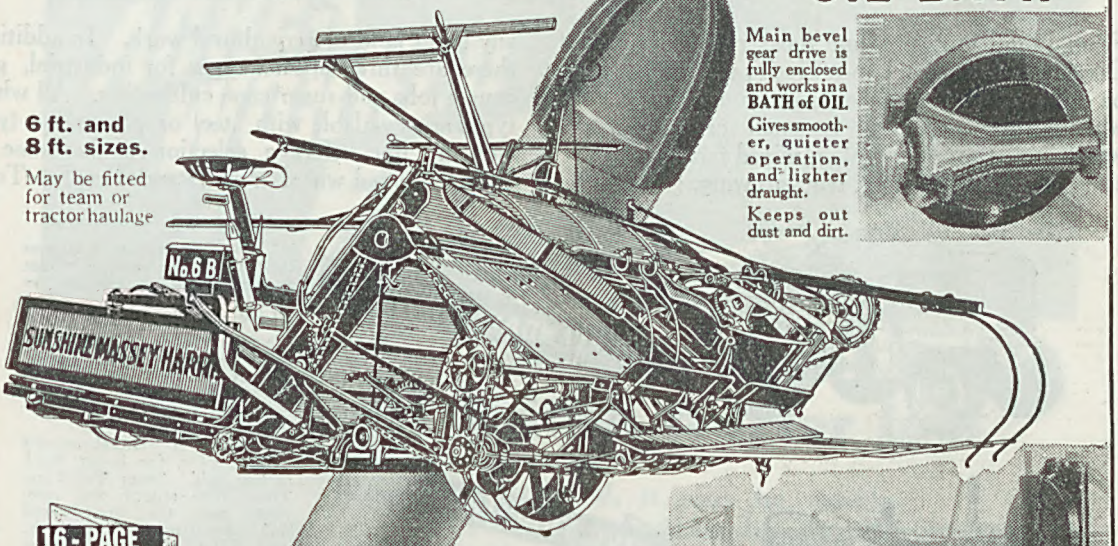

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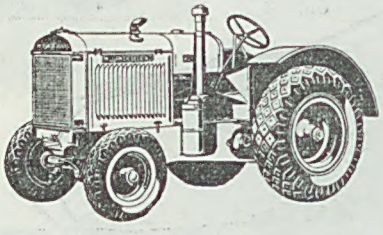

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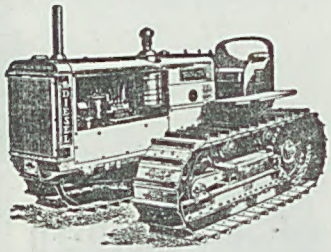

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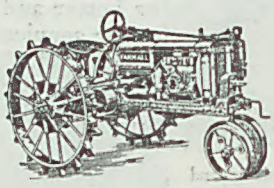

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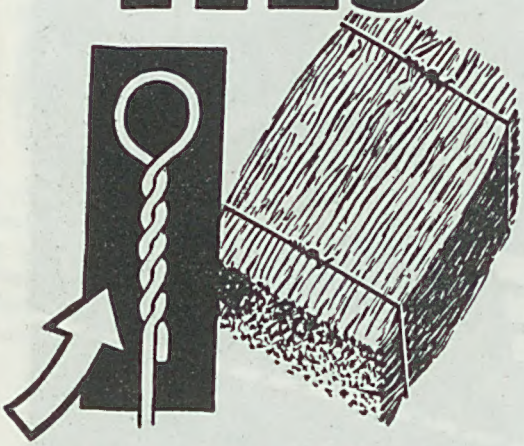

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Some of Mr. R. M. Chirnside's "Mornmoot" Jerseys which supplied the champion herd for the fifth year in succession with an average of 455 lb butter-fat. The champion cow for 1938-39 "Mornmoot Princess Madeira 3rd," can be seen at the extreme left.

Journal of Agriculture, Victoria—September, 1939.

NATIONAL MUSEUM OF VICTORIA

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Standard Herd Test

Report for the Year 1938-39

By W. J. Yuill, Supervisor of Herd Testing

THE 1938-39 season will long be remembered as one of severe drought and no doubt will be compared by many with such disastrous years as 1901 and 1914. It is doubtful if any dairying season ever began so unfavorably, for owing to the "lean" conditions of the previous year, fodder stocks were low, and farmers were looking forward to the spring to replenish their hay and silage reserves. Unfortunately, the dry winter was followed by an abnormally dry spring, and very little fodder was available for this purpose. In some areas, streams which had never previously failed, actually stopped running in early summer. On many farms in the "over 40-inch" rainfall areas, the water shortage became more acute than the problem of feeding. On this account some herds had to be dried off and sold. The very dry conditions during the past two winters had unusual repercussions on the State water storages, and in turn on many irrigation farms and production yields.

Stockmen with experience of previous severe droughts, were rather concerned at the prospects of the following autumn and winter. This outlook, however, was entirely changed, when the whole of the eastern half of the State received generous falls of rain. Following these rains, veritable hothouse conditions prevailed, resulting in an amazing growth of feed on practically every farm. These conditions, unfortunately, did not apply to the western area, where the drought continued until late autumn. As a result, large numbers of dairy stock have been wintered in the more favoured parts of the State.

Despite these generally bad conditions, splendid yields were recorded by some herds, and by many individual cows. It is evident, that good dairy cows can make excellent yields in any season, provided the nutrients necessary for maintenance, development of the foetus, and for the full functioning of the udder are supplied. An easily accessible supply of water, and the necessary minerals are also important.

The Champion Herd.

For the fifth year in succession, Mr. R. M. Chirnside's "Mornmoot" Jersey stud has supplied the champion herd. No other stud has this proud distinction. If any further evidence

Mr. R. M. Chirnside's Champion cow "Mornmoot Princess Madeira 3rd"—727 lb. butter-fat.

of its prowess were needed, it will be found in the fact, that it has carried off the dual honours of champion herd and champion cow on three separate occasions. During the past three years, the challenger has moved progressively nearer to Mr. Chirnside's champion herd. On this occasion, only 4 lb. of actual butter-fat separates the average yields of the two top herds.

The highest producer for the year "Dookie Sappho"—746lb. butter-fat, owned by Dookie Agricultural College.

Captain A. E. T. Payne's herd of 20 Guernseys set a new high record for the breed, when its yield of 451 lb. butter-fat gained the Reserve Championship. This yield was but 1 lb. higher than the average yield of Mr. F. W. Clarke's "Mer Vue" herd of fifteen Jerseys; which held the reserve position in the previous year, with a yield of 470 lb. butter-fat. When all allowances were added, however, the "Avalon" stud of Mr. F. Austin, Lara, actually gained third position, the yields of the champion herd being 539 lb.; the reserve champion herd 515 lb.; and the "Avalon" stud 507 lb.

Two adjoining properties at Toora, South Gippsland, viz., those of the well-known Jersey studs of "Mer Vue" and "Tooravale," are separated in yields by less than a quarter of a pound of butter-fat, when all allowances are considered.

Each herd exceeded 500 lb. in the previous year—on this occasion their averages are 493.6 and 493.2 respectively.

At Maffra, Messrs. T. M. Noble and Son's well-known "Finchley" stud has doubled in size, and, chiefly through the excellent performance of its junior cows, has the fine herd average of 470 lb. (415 lb. actual butter-fat). It is not possible to appreciate truly the 395 lb. butter-fat average of the 35 "Springhurst" Jerseys, unless it is remembered that on this property there is no irrigation, and the rainfall was the lowest ever known there, only 13.26 inches being recorded during the year. With allowances Mr. E. Hore's 28 Jerseys yielded 459 lb. butter-fat, a result that is but 1 lb. higher than that of the eighteen Friesians at the Werribee Research Farm; while in the steep hills at Pennyroyal, Mr. J. G. Norman's "Banaview" stud shows up well, with an average yield of 453 lb.

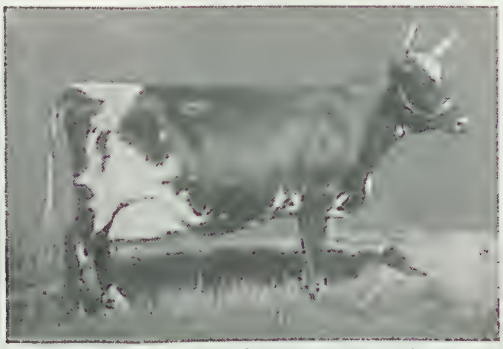
Among the large herds, the 62 "Willow Park" Shorthorns occupy a prominent position with an average yield of 347 lb. butter-fat—a special feature of the performance being the 416 lb. average yield of the eighteen mature cows. When all allowances were added, this herd averaged 427 lb.—a great performance indeed. The "Banyule" herd of 35 Jerseys averaged 352 lb. of butter-fat. This figure includes the records of some "unfinished" cows that were sold at the clearing sale in April.

Captain A. E. T. Payne's Reserve Champion Guernsey "Yarraview Citron"—663 lb. butter-fat.

In the steep hills at Mirboo North, the 37 Jerseys of Messrs. Smith Brothers encountered the driest year on record. The good autumn, however, made a 376 lb. herd average possible. The 388 lb. yield of the Werribee Red Polls was a good performance, as was also the 368 lb. average of the 39 Jerseys owned by Messrs. G. A. McNabb and Son, of Irrewillipe—where a water scarcity existed for several months. Other large herds to do well were the Ballarat Orphanage Jersey herd of 30 cows which averaged 357 lb. of butter-fat, while J. Moore and Company's herd of 34 Jerseys averaged 275 lb. butter-fat—or 328 lb. with allowances.

"The Wattles" Jersey stud, owned by Mr. N. H. Enders, again heads the small-herd section. His twelve cows averaged 502 lb.

The Reserve Champion herd.—Capt. A. E. T. Payne's Guernseys set a new record for the breed with 451 lb. butter-fat.



Mr. G. A. Fraser's mature Ayrshire "Glengowrie Ray"—677 lb. butter-fat.

butter-fat (with allowances included). Mr. P. J. Maloney's eleven Jerseys averaged 480 lb., while Mr. G. A. Fraser's Ayrshire herd, also of eleven cows, was third with 469 lb. Their actual butter-fat yield was 393 lb. The herds of Messrs. F. A. Williams, J. V. Trewin, T. S. Powell, and Mrs. A. A. Broad, also exceeded the 450-lb. level, when junior allowances were added. There were also excellent yields by some smaller herds.

Champion Cow.

The highest yielder for the year was "Dookie Sappho," an Ayrshire cow owned by the Dookie Agricultural College. It is highly probable that the decision of the management at the College, to hold this cow out of calf, to enable her to freshen at a more suitable time of the year, robbed her and her breed of the championship. Undoubtedly, Sappho's yield was favorably influenced by the prolonged service period. However, her yield of 746 lb. butter-fat on twice-a-day milking is, indeed, a meritorious performance. As a junior-two-year-old, she produced 452 lb. of butter-fat, her average yield for six records being 552 lb. Her sire is "Dookie Beau"; who is a full brother to "D. Beeswax," an "over 500 lb. butter-fat" cow. Eight records of his daughters average 422 lb. of butter-fat.

Although "Sappho" fails to please the critical breed judge, she is, as her photo suggests, quite a good individual of the breed. In this connexion it is interesting to note that she

A group of "over 600 lb. butter-fat" cows. Top left.—Messrs. R. G. Gay & Son's "Myrtle Point Songstress"—604 lb. butter-fat. Top Right.—"Ingolston Domino Beauty", a mature Friesian owned by the Salesian College—600 lb. butter-fat. Bottom left.—Mr. R. M. Chirnside's mature Jersey "Werribee Stella Princess"—647 lb. butter-fat. Centre.—Mr. J. H. Goddard's mature Ayrshire "Donside Lydo Lady"—610 lb. butter-fat. Bottom Right.—Mr. J. D. Read's junior four-year-old Jersey—610 lb. butter-fat.

must be grouped with all the "over 700 lb. butter-fat" cows of this breed.

The highest yielding cow to qualify by re-calving within fifteen months, is "Mornmoot Princess Madeira 3rd," a daughter of Mr. R. M. Chirnside's champion herd test cow "Mornmoot Princess Madeira." The new champion is a rare exception, in that she has thrice produced over 700 lb. butter-fat, while her dam was also a champion with the same distinction. Mr. W. K. Atkinson's "Willow Park Cherry" (thrice champion test cow) and "Willow Park Fairy" (twice champion test cow)—both on thrice-a-day milking—represent the only other instance of a champion test cow breeding a champion test daughter of similar merit.

Mr. F. W. Clarke's "Mer Vue Sister"—629 lb. butter-fat as a junior three-year-old.

"Victoria Flirt"—614 lb. butter-fat. She is owned by the Department of Agriculture.

"Mornmoot Princess Madeira 3rd" has records of 724, 721, and 727 lb. butter-fat. The only other instance of such high successive records on twice-a-day milking, is that of her illustrious dam "Mornmoot Princess Madeira" with yields of 773, 794, and 794 lb. butter-fat. A maternal half-sister to this great cow appears in the herd of Mr. T. S. Powell, with a 510 lb. yield as a senior four-year-old. This effort was preceded by 480 lb. as a junior two; 584

THE MORNMOOT PRINCESS MADEIRAS—A BRANCH OF THE FAMOUS MADEIRA FAMILY.

(33143) Werribee Princess Madeira 2nd by Werribee Butter King.

"Mornmoot Princess Madeira" (37071) by "Werribee Grandmaster"
Jr. 2, 424 lb. butter-fat
Sr. 2, 572 lb. butter-fat
Sr. 3, 773 lb. butter-fat
Sr. 4, 794 lb. butter-fat
Mature, 794 lb., butter-fat
Mature, 520 lb. butter-fat

"Mornmoot Princess Madeira 2nd" (45268) by "Mornmoot Starbright King"
Jr. 2, 480 lb. butter-fat
Sr. 2, 584 lb. butter-fat
Sr. 3, 570 lb. butter-fat
Sr. 4, 510 lb. butter-fat
Mature, 474 lb. butter-fat

"Mornmoot Princess Madeira 3rd" (45269) by "Staghorn Larkspur's Majestic"
Jr. 2, 551 lb. butter-fat
Sr. 3, 721 lb. butter-fat
Sr. 4, 734 lb. butter-fat
Mature, 727 lb. butter-fat

"Mornmoot Princess Madeira 6th" (54250) by "Werribee Prince Madeira"
Jr. 2, 406 lb. butter-fat
Sr. 2, 485 lb. butter-fat

"Mornmoot Princess Madeira 5th" (49660) by "Werribee Jupiter"
Jr. 2, 429 lb. butter-fat
Sr. 2, 571 lb. butter-fat
Sr. 3, 555 lb. butter-fat
Sr. 4, 539 lb. butter-fat

"Mornmoot Princess Madeira 7th" (54251) by "Werribee Warrior"
Jr. 2, 452 lb. butter-fat
Sr. 2, 589 lb. butter-fat

"Mornmoot Princess Madeira 11th" (58571) by "Werribee Madeira's Ace"
Jr. 2, 352 lb. butter-fat

"Mornmoot Princess Madeira 8th" (54252) by "Werribee Madeira's Ace"
Jr. 2, 353 lb. butter-fat
Sr. 2, 400 lb. butter-fat (240 days sold)

"Mornmoot Princess Madeira 9th" (58569) by "Werribee Warrior"
Jr. 2, 426 lb. butter-fat

"Mornmoot Princess Madeira 10th" (58570) by "Werribee Warrior"
Jr. 2, 351 lb. butter-fat

lb. as a senior two, and 570 lb. as a senior three-year-old. Herd-testing has proved the remarkable dairy aptitude of this great Jersey family to which special reference was made in the 1937 report. It has been prominent among the class leaders for several years past, and on this occasion, it is again much in evidence. In the senior two-year-old class, "Mornmoot Fancy Madeira 4th," and "Mornmoot Princess Madeira 6th," appear with yields exceeding 485 lb., while third, fourth, and fifth places in the junior section, are filled by individuals carrying this breeding. Mr. Austin's "Avalon Madeira Duchess 4th" in the junior three-year-old class, is a daughter of "Mornmoot Prince Madeira."

THE SIX LEADING COWS IN EACH SECTION.

Owner.	Name of Cow.	Class.	Breed.	Butter-fat.
				lb.
Dookie Agricultural College ..	Dookie Sappho	Mature ..	Ayrshire ..	746.43
R. M. Chirnside	Mornmoot Princess Madeira 3rd ..	,, ..	Jersey ..	726.73
G. A. Fraser	Glengowrie Ray	,, ..	Ayrshire ..	677.09
*A. E. T. Payne	Yarraview Citron	,, ..	Guernsey ..	663.15
R. M. Chirnside	Werribee Stellar Princess	,, ..	Jersey ..	646.63
E. Hore	Troed-Yr-Rhiw Bettwys 2nd ..	,, ..	,, ..	644.22
A. E. T. Payne	Yarraview Essie	Senior 4 ..	Guernsey ..	582.65
J. H. Goddard	Inverurie Rayda	,, ..	Ayrshire ..	529.01
*Department of Agriculture ..	Victoria Ilkabelle	,, ..	Friesian ..	522.35
T. S. Powell	Mornmoot Princess Madeira 2nd ..	,, ..	Jersey ..	510.32
N. H. Enders	The Wattles Princess 4th	,, ..	,, ..	504.06
S. C. Handley	Barrowby Rosalind	,, ..	,, ..	503.25
T. S. Powell	Wompini Anna Carlovna	Junior 4 ..	Jersey ..	610.17
J. D. Read	Springhurst Sybil Soya	,, ..	,, ..	601.14
T. S. Powell	Monterey Melody's Mascot	,, ..	,, ..	546.76
Vaughan Bros	Linroy Natty	,, ..	,, ..	543.86
S. C. Handley	Barrowby Rose Fancy	,, ..	,, ..	541.45
E. Hore	Tavistock Mountain Maid	,, ..	,, ..	528.72
N. H. Enders	The Wattles Petal	Senior 3 ..	Jersey ..	570.88
F. A. Williams	Bamawm Bonnie Lass 2nd	,, ..	,, ..	551.27
J. D. Read	Springhurst Blonde Aconite	,, ..	,, ..	527.96
F. Austin	Avalon Starbright's Beauty	,, ..	,, ..	524.38
J. E. Handbury and Son ..	Tooravale Princess 18th	,, ..	,, ..	524.25
J. E. Handbury and Son ..	Tooravale Lassie 19th	,, ..	,, ..	501.24
F. W. Clarke	Mer Vue Sister	Junior 3 ..	Jersey ..	629.16
G. A. Fraser	Bonnie Doon Heatherbell	,, ..	Ayrshire ..	555.51
J. D. Read	Springhurst Gamboge Tomato ..	,, ..	Jersey ..	500.00
F. Austin	Avalon Madeira's Duchess	,, ..	,, ..	487.86
R. M. Chirnside	Mornmoot Prosperity	,, ..	,, ..	482.13
C. S. Grice..	Belgonia Suspense 6th	,, ..	,, ..	477.73
F. W. Clarke	Mer Vue Choice Contralto	Senior 2 ..	Jersey ..	538.08
R. M. Chirnside	Mornmoot Fancy Madeira 4th ..	,, ..	,, ..	488.51
F. Austin	Avalon Starbright's Pansy 6th ..	,, ..	,, ..	486.62
R. M. Chirnside	Mornmoot Princess Madeira 6th ..	,, ..	,, ..	484.76
J. V. Trewin	Weir View Golden Design 2nd ..	,, ..	,, ..	477.49
R. M. Chirnside	Mornmoot Starbright 3rd	,, ..	,, ..	466.50
A. E. T. Payne	Yarraview Le Mode..	Junior 2 ..	Guernsey ..	562.55
J. H. Goddard	Inverurie Blue Belle	,, ..	Ayrshire ..	514.91
F. Austin	Avalon Madeira's Pansy	,, ..	Jersey ..	471.24
T. M. Noble and Son ..	Finchley Nasturtium 5th	,, ..	,, ..	451.40
Mrs. G. S. Daley	Karrara Fancy Madeira	,, ..	,, ..	446.08
A. E. T. Payne	Yarraview Rouge	,, ..	Guernsey ..	444.81

* Thrice a day milking.

The Reserve Championship goes to Captain A. E. T. Payne's "Yarraview Citron," whose yield on three milkings daily was 663 lb. Once again the Ayrshire breed was denied the honour of one of the two highest positions by the failure of Mr. G. A. Fraser's "Glengowrie Ray" (677 lb. butter-fat), to recalve within the prescribed period of fifteen months.

The yield of 646 lb. butter-fat made by Mr. Chirnside's "Werribee Stella Princess" is 3 lb. higher than Mr. Hore's Welsh-named Jersey cow, "Troed-yr-Rhiw-Bettwys 2nd," who also has a 590 lb. junior four-year-old record.

The well-known Guernsey bull "Camellia's Majestic of Maple Lodge" (impt.) who increased the yield of his daughters above that of their dams by 100 lb. butter-fat.

The three leading positions in the senior four-year-old class are filled by a Guernsey, an Ayshire, and a Friesian. "Yarraview Essie" is one of the many good daughters of that extensively proven Guernsey bull "Camellia's Majestic of Maple Lodge" (Imp.). Her yield of 583 lb. is well clear of Mr. J. H. Goddard's "Inverurie Rayda's" record of 529 lb., who in turn is closely followed by the thrice-a-day milked Friesian, "Victoria Ilkabella."

Mr. S. E. Handley has a representative in each of the four-year-old classes, viz.:—"Barrowly Rosalind," 503 lb., and "B. Rose Fancy" a junior four-year-old with 541 lb. butter-fat. This cow's ability is shown by her second place in the junior three-year-old class in the previous year. Messrs. Vaughan Brothers junior four-year-old "Lynroy Natty," 544 lb. butter-fat, is by "Werribee Laverock," who raised the yields of his daughter's 50 lb. above that of their 450-lb. dams.

Mr. J. D. Read has three "Springhurst" cows represented. All are daughters of that remarkable bull "Bellefaire Seaborn Successor." An early index of this bull, indicated his great value, for when mated with dams that averaged 503 lb., he left daughters with an average yield of 530 lb. butter-fat. At Tooravale, Messrs. J. E. Handbury and Son have two cows in the senior three-year-old class. They are "Princess 18th," and "Lassie 19th," and represent the breeding of two great foundation cows in this herd.

Capt. A. E. T. Payne's "Yarraview Le Mode" yielded 563 lb. butter-fat—a junior two-year-old record for any breed in the standard herd test.

Mr. F. A. Williams' "Bonnie Lass 2nd" (551 lb. senior three-year-old) is a daughter of one of the really great dairy Jerseys of Victoria, viz.:—"Ballara Bonnie" a daughter of "Brucevale Fancy Madeira." Her six-year average yield of 589 lb. butter-fat includes four records over 600 lb—two being finished in one year. Her highest record was 691 lb. Each of her daughters has exceeded 400 lb. on her first calf. "B. Bonnie" is one of the noted advanced register cows that is breeding on her producing ability.

"Wompini Anna Carlovna"—610 lb. butter-fat—owned by Mr. T. S. Powell. (The leading "junior four").

Mr. T. S. Powell has three candidates in the four-year-old classes. His herd is mainly of "Werribee" breeding. "Anna Carlovna," the junior four-year-old class leader, combines breed quality and dairy aptitude in high degree. Her record of 610 lb. butter-fat was made while appearing at several shows, where she won many prizes.

The class leader in the senior three-year-old section, is the "Wattles Petal," a daughter of "Banyule Supine." Her record of 571 lb. was preceded by yields of 437 and 480 lb. butter-fat as a junior and a senior two-year-old respectively.

Mr. F. W. Clarke's "Mer Vue Sister," leader in the junior two-year-old class in 1938. amplifies her claim to greatness by heading the junior-three-class on this occasion, with the splendid record of 629 lb., while her herd-mate heads the senior two-year-old class with the excellent yield of 538 lb. The high testing "Mer Vue" herd is well represented by these fine young cows.

Mr. G. A. Fraser's "Bonnie Doon" Ayrshires are well to the fore. "Glengowrie Ray's" 677 lb. yield already has been referred to when commenting on the reserve championship. That she is a remarkable cow is shown by her consistently high yields. In "Heatherbelle," a 556 lb. junior three-year-old, Mr. Fraser has a worthy daughter of one of the most consistently high producers of the breed. "Bonnie Doon Heather," her dam, has five records which average 581 lb.; her most recent yields being 611, 625, and 735 lb. of butter-fat. A feature of the high yields of "Ray" and "Heather" is their high average test—each being well above 5 per cent. butter-fat.

In the "baby" class are some very unusual junior two-year-olds. The first two performances constitute class records for the breed. Had "Yarraview Rouge" not been "off colour" during the year, her butter-fat yield would have been nearer the 500 lb. mark. "Yarraview Le Mode's" yield of 563 lb. butter-fat is the highest record ever made by a junior two-year-old of any breed, since the inauguration of the standard herd test. Each of these heifers were "steamed up" on the English system, and responded remarkably to the treatment.

Mr. J. H. Goddard, in common with many Gippslanders—who rely mainly on the excellent rainfall—found it difficult at times to secure sufficient water to maintain his herd. His two representatives were "Inverurie Blue Bell" (515 lb. butter-fat) and "I. Rayda" (529 lb.). The yield of the former is the highest ever made by a Victorian Ayrshire as a junior two-year-old. Her dam is the 649 lb. butter-fat "Donside Thistledown 2nd," while her sire is a son of "Donside Lydo Lady," whose highest record is 672 lb. butter-fat.

When due allowance is made for the unusual weather conditions of the past season, the 338 lb. butter-fat yield averaged by the 1,479 cows tested must be regarded as satisfactory. Of the total number of tested cows, 70 exceeded the 500 lb. level; nineteen of these yielded over 600 lb., while two produced more than 700 lb. butter-fat. It is of interest also to note that as in the previous year half of the leading mature cows are represented by breeds other than Jerseys and all exceeded the level of 644 lb. butter-fat. Reports of cows now undergoing test indicate a return to normal conditions and to higher individual and average yields.

Mr. R. M. Chirnside's "Mornmoot Fancy Starbright"—620 lb. butter-fat.

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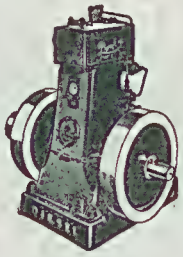

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Herd Averages, 1938-39

Owner.	Breed.	Junior 2-year-old.		Senior 2-year-old.		Junior 3-year-old.		Senior 3-year-old.		Junior 4-year-old.		Senior 4-year-old.		Mature.		Total Herd.	Average without Allowances.	Average with Allowances.
		No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.		
HERDS OF 25 COWS AND OVER.																		
1. Chirnside, R. M.	Jersey ..	11	369·44	5	466·18	2	477·22	1	467·00	1	457·86	1	510·32	6	582·61	27	454·82	538·60
2. Read, J. D. ..	„ ..	9	327·45	4	302·86	4	428·30	3	470·41	4	455·90	1	382·59	10	431·99	35	394·54	466·26
3. Hore, E. ..	„ ..	8	294·82	3	365·52	3	339·16	4	415·48	2	480·44	2	404·92	6	484·58	28	386·17	459·09
4. Atkinson, W. K.	Dairy Shorthorn	14	273·94	4	312·88	10	314·73	5	351·30	7	372·85	4	350·64	18	416·18	62	346·68	427·28
5. Nicholas, M. A.	Jersey ..	5	301·80	3	347·36	4	312·03	4	386·97	2	417·68	..	..	8	381·81	26	355·27	420·00
6. Lyon, C. G. ..	„ ..	9	304·58	..	..	3	252·26	1	373·49	6	350·65	3	421·40	13	393·74	35	353·08	411·09
7. Ballarat Orphanage	„ ..	3	281·23	2	276·39	3	322·31	1	316·68	4	354·86	5	385·62	12	391·24	30	357·42	402·25
8. Department of Agriculture	Red Poll	12	282·36	1	271·22	4	389·80	3	275·02	3	328·51	3	328·60	23	346·29	49	326·12	388·42
9. Smith Bros. ..	Jersey ..	6	249·81	2	304·32	2	346·55	1	270·95	3	292·22	..	..	23	361·18	37	331·23	376·28
10. McNabb, G. A., and Son	„ ..	8	223·21	5	289·21	7	295·41	5	318·40	3	292·30	5	295·76	6	347·14	39	290·52	367·65
11. Maher, R. H. ..	„ ..	8	234·12	1	241·06	1	37·50	4	335·07	1	319·29	1	238·79	10	325·87	26	281·10	341·98
12. Moore, J., and Co.	„ ..	4	198·31	3	245·51	7	274·09	1	287·61	..	..	3	303·11	16	294·20	34	275·07	327·52
HERDS OF 15 TO 24 COWS.																		
1. Payne, A. E. T.	Guernsey	6	425·34	3	384·23	..	..	1	295·03	3	444·01	2	480·85	5	543·82	20	450·63	515·13
2. Austin, F. ..	Jersey ..	5	349·88	4	451·70	2	430·22	3	464·70	2	429·17	..	..	5	498·10	21	436·17	506·79
3. Clarke, F. W. ..	„ ..	2	334·12	3	423·21	1	629·16	..	..	..	..	2	470·96	7	462·24	15	449·64	493·64
4. Handbury, J. E. and Son, No. 1 Farm	„ ..	8	363·32	1	355·99	1	400·07	3	477·10	..	..	1	481·96	4	484·82	18	417·51	493·45
5. Noble, T. M., and Sons	„ ..	7	385·92	1	393·79	1	334·79	1	392·18	1	367·52	3	425·20	9	452·86	23	414·83	470·13
6. Department of Agriculture	Friesians	3	343·51	1	309·80	1	371·90	..	..	2	381·57	2	461·73	9	462·44	18	420·04	458·21
7. Norman, J. G...	Jersey ..	5	323·26	4	358·34	3	381·89	1	393·86	..	..	1	495·74	6	432·84	20	384·10	452·60
8. Daley, Mrs. G. S.	„ ..	8	320·83	1	317·26	..	..	..	..	..	..	2	369·61	8	440·66	19	376·23	436·13
9. Hurrey, W. H. ..	„ ..	5	299·66	3	344·98	4	323·93	2	375·43	5	376·29	..	..	4	421·62	23	354·25	425·20
10. Nancarrow Bros.	„ ..	3	365·20	2	351·71	3	388·13	3	308·42	1	330·60	1	337·03	3	398·36	16	359·46	424·96
11. Hore, M. T. ..	Friesian..	3	263·09	3	265·00	2	280·17	3	348·64	2	374·68	1	444·76	2	446·82	16	329·89	399·14
12. Gay, R. G., and Son	Jersey ..	4	268·74	..	..	3	329·59	..	..	..	..	2	334·58	6	415·35	15	348·33	399·00
13. Vagg, E. J. ..	„ ..	6	280·31	2	294·08	2	320·70	1	338·74	2	326·66	1	402·39	4	376·63	18	322·91	393·30
14. Walker, C. S. ..	„ ..	4	270·47	1	335·94	2	327·07	..	..	..	..	1	372·13	7	362·12	15	331·93	382·60
15. Harvey, T. ..	„ ..	2	223·72	1	337·19	..	..	1	447·07	3	347·47	2	373·58	10	354·22	19	345·45	376·92
16. Tomasetti, B. G.	Ayrshire	4	228·04	2	318·34	2	336·94	..	..	2	312·64	3	316·62	4	374·33	17	311·48	370·13
17. Alston, N. B., and Sons	Jersey ..	2	230·46	3	304·66	3	233·91	1	310·37	3	356·81	..	..	6	317·10	18	297·78	352·61
18. Colenso, L. W. R.	„ ..	6	186·96	2	207·55	4	268·51	2	282·95	1	314·02	..	..	8	354·24	23	274·99	339·86
19. Coughlin, C. ..	„ ..	3	267·84	2	205·09	2	231·74	2	279·49	2	252·29	1	88·80	5	333·48	17	264·52	320·82
20. Watson, K. E...	„ ..	4	234·55	1	255·69	5	215·87	5	242·66	..	..	..	..	4	275·48	19	241·50	310·87
21. McErvale, I., and Sons	„ ..	6	217·33	..	..	2	248·26	2	298·80	2	300·52	2	233·66	9	261·38	23	252·99	301·69
HERDS OF 10 TO 14 COWS.																		
1. Enders, N. H. ..	Jersey ..	5	360·41	1	397·67	..	..	1	570·88	1	502·34	1	504·06	3	477·26	12	434·06	502.40
2. Maloney, P. J. ..	„ ..	1	423·71	1	445·20	3	398·20	1	420·12	1	463·19	..	..	4	442·96	11	428·97	479·88
3. Fraser, G. A. ..	Ayrshire	2	350·15	5	334·78	1	555·51	..	..	..	..	..	..	3	465·32	11	393·24	468·79
4. Williams, F. A...	Jersey ..	2	273·21	2	365·02	1	328·59	1	551·57	1	490·39	..	..	4	449·48	11	404·08	460·45
5. Trewin, J. V. ..	„ ..	2	314·79	2	447·72	..	..	2	390·50	1	356·38	..	..	3	429·96	10	395·23	455·23
6. Powell, T. S. ..	„ ..	2	331·64	..	..	1	313·74	2	374·12	3	510·85	..	..	4	406·80	12	407·08	453·75
7. Broad, Mrs. A. A.	„ ..	5	352·30	1	310·72	1	430·84	..	..	1	347·12	..	..	2	427·61	10	370·54	452·54
8. Salesian College	Friesian..	1	345·77	..	..	2	329·66	1	268·85	..	..	..	..	7	469·12	11	414·34	445·25
9. Goddard, J. H...	Ayrshire	4	301·21	..	..	1	473·30	..	..	1	401·73	1	529·01	5	406·56	12	386·81	438·47
10. Macauley, C. W.	Jersey ..	3	330·17	4	376·96	..	..	..	..	..	..	..	..	3	348·08	10	354 26	430·26
11. De La Rue, N. C.	„ ..	1	339·24	..	..	..	..	3	374·42	1	381·75	3	374·01	3	400·59	11	378·91	415·28
12. Meaklim Bros. ..	Dairy Shorthorn	2	293·80	1	228·57	..	..	..	..	1	391·91	..	..	9	418·37	13	382·57	411·80
13. Chadderton, J. E.	Jersey ..	..	..	3	322·46	1	344·54	2	344·28	1	356·04	1	370·57	3	355·26	11	344·81	395·72
14. Haywood, Dr. A. R.	„ ..	3	268·49	3	302·42	..	..	1	292·29	2	350·36	..	..	1	340·95	10	304·67	384·67
15. Wade, W. J. ..	„ ..	5	241·28	1	228·68	2	284·06	..	..	2	349·00	..	..	2	431·83	12	297·07	375·40
16. Pattison, F. ..	Ayrshire	3	276·74	..	..	2	339·55	1	287·87	1	380·63	1	355.07	6	331·94	14	323·18	368·89
17. Mesley, W. T. ..	Jersey ..	6	240·78	2	311·99	..	..	2	319·43	1	316·18	1	317.88	2	309·46	14	282·89	361·46
18. Shearman, A. and W.	„ ..	2	226·71	1	221·60	3	269·16	2	325·17	1	362·03	..	..	4	346·43	13	298·51	355·43
19. Trevaskis, F. T.	„ ..	3	266·03	1	228·29	2	324·88	..	..	2	425·37	1	336·08	5	272·27	14	301·74	353·17
20. Wilson, A. ..	Ayrshire	1	164·15	..	..	2	342·08	1	266·73	2	257·89	..	..	5	329·92	11	298·22	336·40
21. Coulthard, J. L., and Son	Jersey ..	2	269·38	2	249·85	1	230·57	2	323·38	..	..	..	..	5	293·45	12	281·92	335·25

London Markets

Weekly Prices

The following information as to prices offering in London for the principal Victorian primary products has been taken from cablegrams received each week by the Department of Agriculture from the Victorian Agent-General in London.

Product.	Price for Week Ending—			
	4th August	11th August	18th August	25th August
	d.	*d.*	*d.*	*d.*
Lamb, 1st quality, Victorian .. .. 29–36 lb. ..	6⅝	6⅝	6½	6½
Lamb, 1st quality, Victorian .. .. 37–42 lb. ..	6½	No change.	No change.	No change.
Lamb, 1st quality, other States .. .. 29–36 lb. ..	..			
Lamb, 1st quality, other States .. .. 37–42 lb. ..	..			
Lamb, 2nd quality, Victorian .. .. 28 lb. and under	6⅜			
Lamb, 2nd quality, Victorian .. .. 29–36 lb. ..	6⅜			
Lamb, 2nd quality, other States .. .. 28 lb. and under	6¼			
Lamb, 2nd quality, other States .. .. 29–36 lb. ..	6¼			
Lamb, 3rd quality, all States .. .. 28 lb. and under	6¾			
Lamb, 3rd quality, all States .. .. 29 lb. and over	..			
Mutton wethers and/or maiden ewes .. Under 40 lb. ..	4⅜	4⅜	4⅜	4⅜
Mutton wethers and/or maiden ewes .. 41–48 lb. ..	3¾	3¾	3¾	3¾
Mutton wethers and/or maiden ewes .. 49–56 lb. ..	..	..	..	..
Mutton ewes .. .. Under 40 lb. ..	4¼	4¼	4¼	4¼
Mutton ewes .. .. 41–48 lb. ..	3½	3½	3½	3½
Beef, frozen ox hinds .. .. .. 145–210 lb. ..	4⅛	4⅛	4⅛	4⅛
Beef, frozen ox crops, weights corresponding	3¾	3¾	3¾	3¾
Beef, chilled ox hinds .. .. .. 145–210 lb. ..	5⅛	5⅛	5⅛	5¼
Beef, chilled ox crops, weights corresponding	3¼	3½	3⅜	3⅛
Pork, Australian 1st quality .. .. 60–80 lb. ..	7	7⅛	7⅛	7⅛
Pork, Australian 1st quality .. .. 81–100 lb. ..	7	7⅛	7⅛	7⅛
Pork, New Zealand, 1st quality .. .. 60–80 lb. ..	7	7⅛	7⅛	7⅛
Pork, New Zealand, 1st quality .. .. 81–100 lb. ..	7	7⅛	7⅛	7⅛
	s.	*s.*	*s.*	*s.*
Bacon, Canadian .. .. .. per cwt. ..	89	89	89	89
Bacon, Empire (cured in England) .. .. per cwt. ..	85	85	85	85
Bacon, Danish .. .. per cwt. ..	98	98	100	100
Butter, unsalted, choicest grade .. .. per cwt. ..	109–110	107–108	106–108	113–115
Butter, unsalted, 1st grade .. .. per cwt. ..	108–109	105–106	105–106	..
Butter, unsalted, 2nd grade .. .. per cwt. ..	..	..	..	..
Butter, unsalted, pastry grade .. .. per cwt. ..	..	..	..	..
Butter, salted, choicest grade .. .. per cwt. ..	109–110	107–108	107–109	114–116
Butter, salted, 1st grade .. .. .. per cwt. ..	108–109	106–107	106–108	113–115
Butter, salted, 2nd grade .. .. .. per cwt. ..	106–107	103–105	103–105	109–111
Butter, salted, pastry grade .. .. per cwt. ..	101–103	100–101	101	..
Butter, Danish .. .. per cwt. ..	121	122	122	123
Market (butter)	Slow.	Improved demand at the end of the week.	Improved demand at the end of the week.	Active advancing throughout the week.

The Sheep Measles Parasite

By E. Murray Pullar, M.V.Sc., Veterinary Research Institute, University of Melbourne

SHEEP measles which is the common name applied to small hydatid-like cysts which occur in the muscles of sheep and goats, is caused by infection with the larvae of a tapeworm called *Taenia ovis.* The name measle is somewhat misleading since it has no connexion with human measles, but is applied to three separate and distinct, though closely related, parasites which are found in the muscles of sheep, cattle and swine.

The Larva, Cysticercus or Measle.

The hydatid-like or cystic larva, which is known as *Cysticercus ovis,* is a small bladder-like object (Figs. 1 and 4), transparent, pearly-white in colour and 1/3 to 1/6 of an inch long. It consists of a knob-like head known as the scolex (Fig. 3) about 1/30 of an inch in diameter, which is provided with four suckers and a set of 24 to 36 hooks, the latter arranged like a crown at the top of the head.

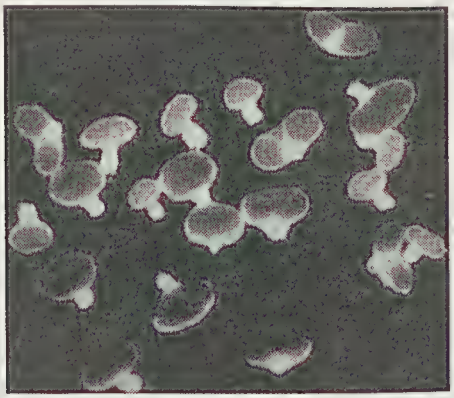

Fig. 1.—The sheep measles parasite (Cysticercus ovis), removed from cysts. Natural size.

[after Ransom.

The parasite uses these suckers and hooks to attach itself to the host. Behind the scolex or head there is a short slightly narrower tube known as the neck. The remainder of the larva consists of sac or bladder filled with clear watery fluid. For protection the hollow neck and head are turned outside in and pushed back into the cyst, so that the hooks and suckers are inside the head (Fig. 2).

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As stated above, these cysts may be found anywhere in the flesh of sheep and goats; they may be encountered in any muscle but the ones particularly favoured by the parasite are those

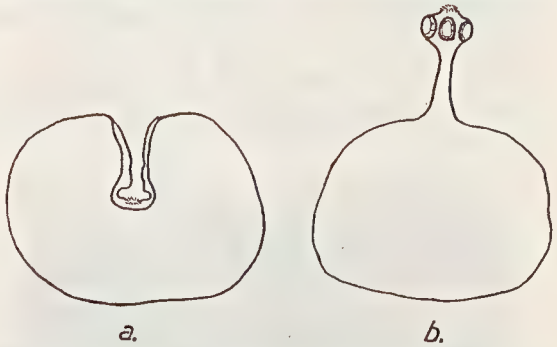

Fig. 2.—The neck and head of the parasite are turned outside in for protection. a. Scolex or head turned in. b. Head turned out.

of the wall of the heart, diaphragm (midriff) and tongue. The cysts appear as glistening, transparent, pearly-white bodies about the size of a pea (Fig. 4), each with an opaque white spot on one side. This spot is the inverted head or scolex. Each cyst is enveloped by a thin shell of fibrous tissue, manufactured by the sheep to prevent the parasite from wandering about. These cysts must not be confused with the larger parasite *Cysticercus tenuicollis* (Figs. 5 and 6) which is found attached to the surface of the liver and mesentery (caul

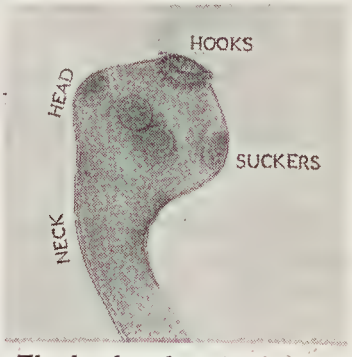

Fig. 3.—The head and neck of an adult tapeworm, photographed while still alive. Enlarged ten times.

fat). The latter cysts are much larger (as big as a pigeon or pullet egg), are not found in muscles, and are the larvae of another tapeworm *Taenia hydatigena*.

Like all other cysticerci the sheep measles parasite does not contain any organs of reproduction and does not breed and reproduce inside the body of the sheep. These cystic larvae are very short-lived, and unless they are able to pass into the next stage of their life cycle in a few months they die and degenerate into small beads of pus or grit-like material (Figs. 7 and 8).

Sheep measles are known to be present in Europe (including England), Africa, North America, New Zealand and Australia. If a

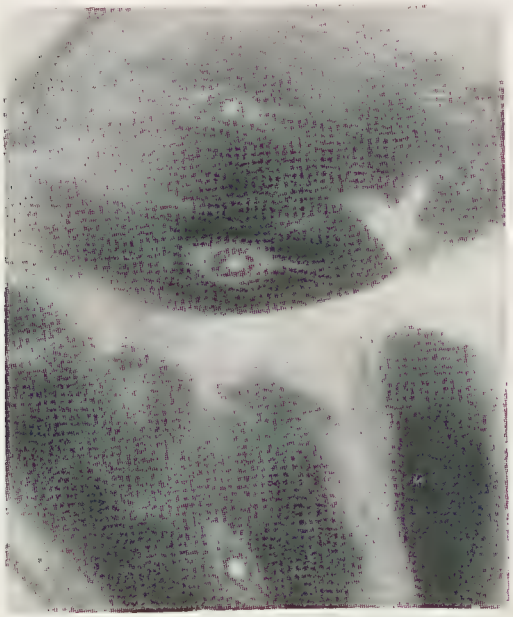

Fig. 4.—Showing live cysticerci or larvae of the parasite in the muscles of a sheep. The white spot on the side of each cyst is the head or scolex. Natural size.
[after Ransom.

meat inspector discovers sheep measles in a carcass he has to reject that carcass for export; in this way the parasite is responsible for a loss to the pastoral industry.

Life History (Fig. 9.)

If the flesh containing live cysts is eaten by a suitable animal (viz.: fox, dog, etc.) the parasite is able to continue its development. The digestive juices in the intestine of the host dissolve away the fibrous tissue envelope, thus liberating the larva. At the same time the

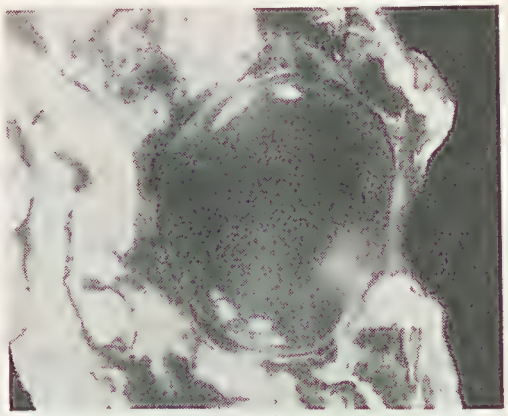

Fig. 5.—The cyst of **Cysticercus tenuicollis,** *which is much larger than the sheep measles parasite, attached to caul fat. Natural size. This parasite should not be mistaken for sheep measles.*

digestive juices stimulate the head or scolex to turn out so that the suckers and hooks are on the outside (Fig. 2). The parasite then attaches itself to the wall of the small bowel and commences to grow.

The head itself does not alter, but the neck starts to elongate and at the same time form flattened, square-shaped blocks or segments of tissue. As more and more blocks or segments are grown, they extend backwards from the neck as chain or ribbon. When fully grown the adult tapeworm (Fig. 10) is six inches to a yard long and from 1/8 to 5/16 of an inch wide. In these blocks or segments the male and female organs of reproduction develop. Like the liver fluke, both organs develop in the same individual. This is a great advantage to the parasite as a single individual can fertilize itself and so carry on the propagation of the species.

After fertilization has taken place the eggs develop inside the segments and remain there. As the tapeworm grows the eggs inside the segments incubate and reach maturity. When the eggs are fully developed one or more segments break off from the end of the ribbon and are carried out of the body of the host to the ground with the droppings or manure. Here the segments dry out and break up, liberating the eggs which are less than 1/1000 of an

*Fig. 6.—*Cysticercus tenuicollis *removed from cyst. Natural size. (see Fig. 5.)*

inch in diameter. As they are so small they are blown about by the wind and can easily fall on grass, salt licks, etc., and so be swallowed by sheep.

The eggs (Fig. 11) are provided with thick shells made up of thousands of rod-like elements cemented together, and contain a minute embryo or first-stage larva known as

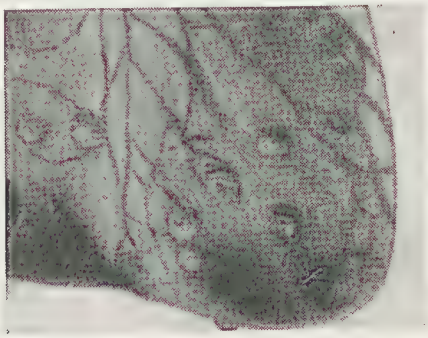

Fig. 7.—Dead sheep measle parasites in the heart. Natural size. [after Ransom.

the hexacanth embryo (Fig. 12). This is an oval creature provided with three pairs of minute hooks.

If a sheep or goat swallows an egg, the shell is dissolved by the digestive juices in the intestine and the hexacanth embryo is set free. It then bores its way through the wall of the intestine into a blood vessel, and is carried by the blood to the muscles where it settles down and develops into the *Cysticercus ovis* with which we started.

Fig. 8.—Another illustration of dead sheep measle parasites in the heart. Reduced. [after Ransom.

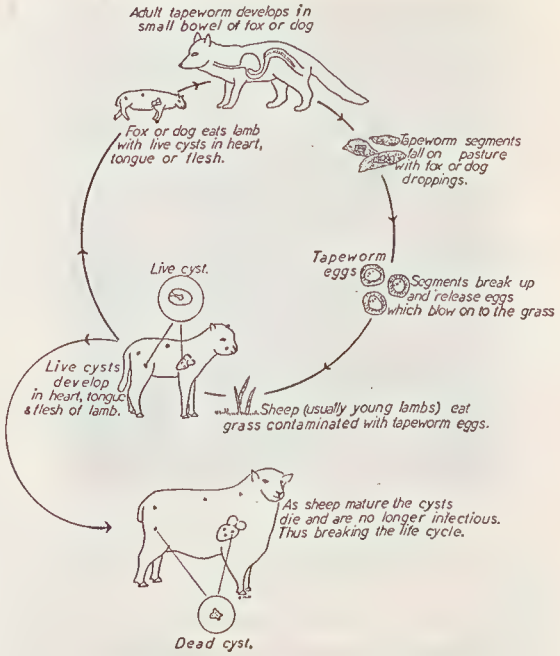
Adult tapeworm develops in small bowel of fox or dog
Fox or dog eats lamb with live cysts in heart, tongue or flesh.
Tapeworm segments fall on pasture with fox or dog droppings.
Tapeworm eggs
Segments break up and release eggs which blow on to the grass
Live cyst.
Live cysts develop in heart, tongue & flesh of lamb.
Sheep (usually young lambs) eat grass contaminated with tapeworm eggs.
As sheep mature the cysts die and are no longer infectious. Thus breaking the life cycle.
Dead cyst.

Fig. 9.—Diagram showing the life cycle of the tapeworm (Taenia ovis), *responsible for sheep measles.*

Spread of Infection.

What animal spreads the infection to sheep? It is a remarkable fact that although the larva of this parasite has been known since 1869 when it was first described by Dr. T. S. Cobbold of America, and has undoubtedly been present in sheep for countless ages, it was not until comparatively recently that naturally-occurring adults have been seen. About twenty-six years ago the late Dr. B. H. Ransom of America was successful in reproducing the life cycle by feeding live cysts to experimental dogs, and after the adults had developed in the intestine of the experimental animals, feeding the mature eggs to sheep.

Ever since Ransom's time it has been assumed that the dog is entirely responsible for the spread of infection to sheep. That this is probably not the case is shown by the fact that the adult parasite is extremely rare in the dog. In fact after examining the records from surveys of dog parasites, prepared by a number of investigators in several countries of the world, including England, France, South Russia, United States, Brazil,

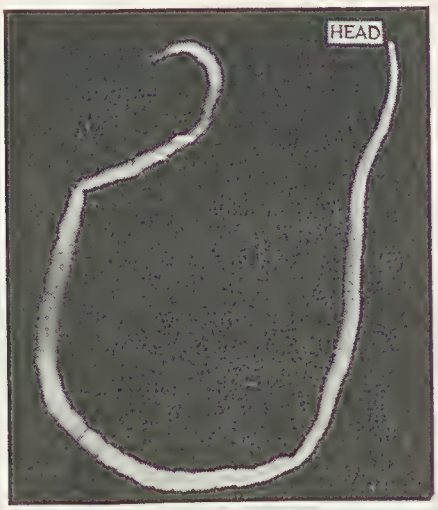

Fig. 10.—The adult form of the sheep measle. This tapeworm (Taenia ovis) *is found in the small bowel of the fox and dog. Natural size.*

Philippine Islands and Australia, we have been able to find evidence of the existence of only four infected dogs, one in Sydney found by Dr. I. C. Ross and three in Melbourne found by the author.

As it is not possible to reconcile the comparative rarity of the adult in dogs with the frequency with which larvae are seen in sheep, we have advanced the hypothesis that the dog is not the usual host of this parasite, although the dog can and does act as a suitable host occasionally. As the only other canine with a universal distribution which lives in close contact with sheep is the fox, we have suggested that the role of that animal as a possible carrier should be investigated.

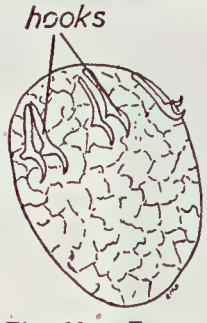

Fig. 11.—Egg of adult tapeworm. Considerably enlarged.

Through the courtesy of the Victorian Department of Agriculture and the Graziers' Association of Victoria, we have been able to examine 35 fox carcasses. On two occasions we have found *Taenia ovis* in the small intestine. In one case two tapeworms were present and in the other fourteen were collected. On a third occasion a somewhat damaged worm was present, and although it was not possible to positively dentify this as *Taenia ovis* there is little doubt that such was the case. These three foxes all came from districts near Stawell. This finding confirmed the hypothesis that the fox is a natural host of the parasite, and it now remains to examine a large number of dogs and foxes from country districts to determine the relative importance of the two hosts.

When the relationship between the dog and the sheep is considered it is obvious that the chance of infection of this host is extremely slight. In the case of city dogs the muscular tissue of sheep used as food has been examined by meat inspectors, and in any case by the time the sheep has reached the age for slaughter the cysts are seldom alive. In 1913 when Ransom studied the life cycle of this parasite he was able to show that the cysts were fully developed in seven to ten weeks after the ingestion of ova, and that they began to degenerate almost immediately. In one case by the eighty-third day some of the cysts had died. In addition, the experience of meat inspectors in this and other countries has been that live cysts are seldom found even in young lambs. This means that to obtain live cysts it would be necessary for the dog to eat flesh from young immature lambs. Even station dogs are seldom exposed to infection, since they are usually fed on guts, which, with the exception of the heart and diaphgram, do not include sites selected by the developing larvae. In addition, the sheep usually slaughtered for rations are mature animals.

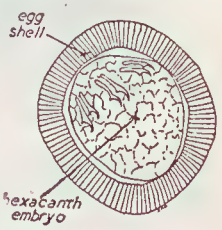

Fig. 12.—The first larval stage of a tapeworm — the hexacanth embryo — Considerably enlarged.

On the other hand, foxes readily attack and eat young lambs, and as a rule devour tongue or muscle instead of guts. By the time the lambs are three to four months old and the cysts have commenced to degenerate, they are relatively immune from the attack of foxes.

Other hosts which should be considered are the dingo and the feral dog (i.e., domesticated dogs which have gone wild). In Victoria the former will be of little economic importance, since it is extremely doubtful whether any pure-bred dingoes exist in this State, and even the dingo-domesticated dog hybrids are mainly restricted to the non-sheep-raising areas. The feral dog on the other hand could easily be an important host because such dogs frequently kill and eat lambs.

Since this investigation is of considerable economic importance, the co-operation of veterinarians and stock owners by supplying material from foxes, dingoes, station dogs and

feral dogs is requested. Those willing to assist are asked to read carefully the following directions for the preservation and transmission of specimens.

Preservation and Transmission of Specimens.

Dead Animals.—Suitable material may be obtained from foxes, dogs and dingoes which have been shot or poisoned, provided the carcass has not begun to putrefy. The easiest method is to skin the animal and then make a small cut about an inch long in the wall of the abdomen or belly. Then place the carcass in a kerosene tin and cover it with a 2½ per cent. formalin solution (i.e., one cupful of formalin to a gallon of water). The lid should then be soldered down.

Another method which reduces the size of the specimen is to remove the whole of the alimentary canal or gut from the carcass and place it *with the head* of the animal in a small tin, cover with a 2½ per cent. formalin solution and seal down the lid.

Live Animals.—A third method which is applicable only to domesticated dogs is to administer a dose of ground areca nut or arecoline hydrobromide which will kill and expel the tapeworms. The dose of areca nut is two grains for each pound of the live weight of the dog. The dose of arecoline is one half grain tablet. The faeces or dung passed by the dog should be collected and placed in a suitable container such as a treacle tin, and a teaspoonful of formalin added as preservative. The lid should be sealed down.

Specimens may be sent by rail or post to the Veterinary Research Institute, Parkville, Victoria.

Postal address.—The Director, Veterinary Research Institute, Story-street, Parkville, N.2, Victoria.

Rail address.—The Director, Veterinary Research Institute, care of Spencer-street Station, Melbourne, Victoria.

Mark "Rail" consignments "*To be called for.*"

The specimen should be accompanied by a covering letter, giving the name and address of the sender and a description of the specimen sent (i.e., carcass, intestine or faeces from fox, dingo, domesticated dog or feral dog) and the locality in which the specimen was collected (i.e., shire or district). Stock Inspectors will arrange for the despatch of specimens to the Veterinary Research Institute.

Tubercle Free Herds

The following herds have been declared free of tuberculosis under the scheme conducted by the Department of Agriculture. Under this scheme a tuberculosis-free accredited herd of cattle is one in which the entire herd has passed two negative, successive, annual physical examinations and tuberculin tests, or, upon disclosure of infection, three semi-annual, successive physical examinations and tuberculin tests applied by a State Veterinarian or by a qualified and registered veterinarian who is approved by the Chief Veterinary Inspector for that purpose.

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Herd Number.	Name.	Address.	Number in Herd.	Herd Number.	Name.	Address.	Number in Herd.
1	State Research Farm	Werribee ..	190	12	Read, John D. ..	"Springhurst Estate," Springhurst	99
2	Warragul High School	Warragul ..	35				
3	Payne, A. E. T. ..	"Yarra View," Lilydale	80	13	Kelly, C. ..	"Glenmore," Creighton's Creek, Euroa	22
4	Dennis, Mrs. A. A. ..	Frankston ..	14				
5	Reid, Ralph G. ..	"Holmwood," Koo-wee-rup	99	14	Gorman, A. W. ..	"Cathcart," Alexandra	64
6	School of Horticulture	Burnley ..	8				
7	Lawrence, P. H. ..	"Rainga," Tarrawarra	59	15	Samuel, B. T. ..	Lang Lang ..	72
				16	Powell T. S. ..	"Carellen," Mansfield	48
8	Banyule Stud Pty. Ltd.	Heidelberg ..	54				
9	McIntosh, John ..	"Burnwood," Merrigum	31	17	Dunbar & Clark, Messrs.	"Hazeldean Dairy" Mount Dandenong	16
10	Black, Mrs. Agnes ..	Mount Noorat	40				
11	Black, Estate, Late I. S.	"The Cottage," Mount Noorat	44				

Preparation of Cattle for Exhibition

By G. H. F. Baker, Live Stock Officer

THE chief object of cattle shows is to encourage the raising of better animals. For the inquiring and receptive mind the show ring is one of the greatest educators in both form and type. Breeders will there discover faults in animals lined up in contest with others and a spirit of friendly rivalry is aroused. Perhaps a beginner's success will be a spur to established breeders, and the importation of several high-class animals can be traced directly to the desire of older men to maintain a leading position.

The preparation of stock intended for exhibition demands careful attention, and a knowledge of the work must be gained by experience and from methods of successful exhibitors. Those methods may differ, but their ultimate object is the same—the presentation to the judge of an animal in the pink of condition.

The selection of animals calls for judgment and an eye for type. Only those that conform to the standard for their respective breed should be chosen. No amount of work or feed will turn an inferior animal into a show winner. Where possible, animals eligible to compete in several classes should be selected. They should be well grown for their age and breed, and of a smart, clean-cut appearance. Where a selection lies between several, a final choice should be made three months before judging day so that all efforts may be concentrated on the animal or animals chosen.

With feeding they should be built up to carry sufficient condition and bloom to present a smooth, sleek appearance, and to do this, stall-feeding is necessary. They should be kept in a clean, well-ventilated building, for cattle housed in a badly-ventilated shed do not thrive as fast as those in a well-ventilated shed, and are more subject to disease.

Food that is easily procurable should be used, and, as likely as not, cheap food will be as good as the more expensive. An increase or a lessening in the quantities fed may be made from time to time, but the variety should not be changed without good reason.

There is no "best" ration or system of feeding; simple mixtures will give equal results with the more complex, and are the more popular, liberal use being made of finely-ground barley, oats, bran, and linseed oil meal. A good ration consists of—

2 parts of finely-ground barley,
1 part of finely-ground oats,
1 part of bran,
½ part of linseed meal.

These, together with a mixture of equal parts of lucerne and hay-chaff and green feed, can hardly be bettered.

The improvement of the cattle should be by degrees right up to Show time. To do this, it is wise to bring them on to the conditioning ration gradually, as a few days "off" feed will undo weeks of fattening. The final rate of feeding should be approximately 1 lb. of the concentrated feed for every 100lb. body weight. This, together with all the hay-chaff they will readily consume without waste will suffice. They should be fed three times daily, as they will then eat more than if fed only twice. Adhere strictly to a feeding time and ration. Learn how much each animal will consume without leaving any, and keep them all alert and keen for more.

If an animal "goes off feed," administer a cooling, laxative drench at once, and when she starts to feed again, give her only small amounts, slowly increasing them until she is back to full feed again. Hay may be fed at the midday meal, as it helps to develop the width and depth of the barrel, but paunchiness should be guarded against, as this makes the animal appear out of proportion.

Cattle should be watered twice daily. They should not be permitted to drink too much; this will induce too laxative a condition of the bowels and retard conditioning. They should be taught to drink clean clear water, and from a trough, and so become accustomed to show-yard conditions.

Bedding should be ample to prevent them soiling their knees, hocks, and thighs. Should this occur on white-coated animals, the stain can be bleached out with hydrogen-peroxide.

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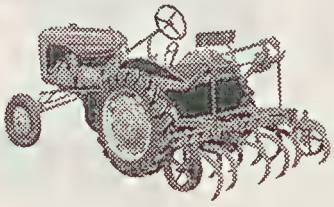

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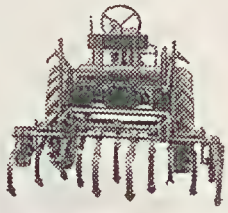

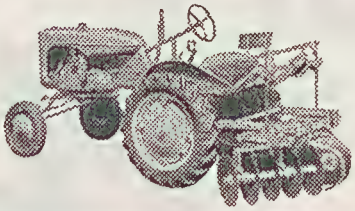

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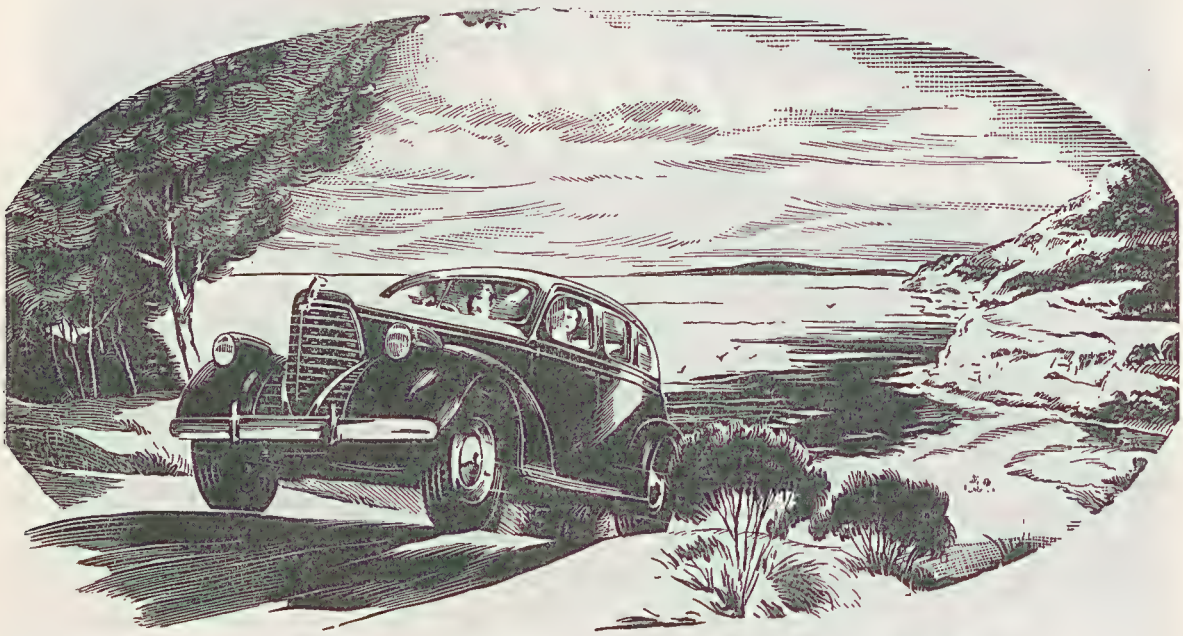

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this

SUPER PLUME

Avoid washing the animals; this is a lazy man's way of preparation. Washing, to be effective, must be done with soap and water, and even the best of soaps will remove the natural oil from the skin, leaving it harsh and dry. Should washing be unavoidable, a mixture of methylated spirits and olive oil should be massaged well into the hair and skin with the flat hand; follow this by brushing the hair well with a soft body brush.

The tail or switch of the animal should not be plaited unless the hair is fine and scanty; rather should it be carefully parted and fluffed out by hand. The use of a comb should be avoided if at all possible. To prevent soiling during transit, or in the stall, the hair of the tail should be bound up with some hessian or cloth.

A certain amount of trimming is necessary with all dairy breeds. With some the practice is to trim the face, ears, neck, and fore-parts of the shoulders, tail, and udder. The other breeds are usually clipped all over. Any trimming or clipping should be done some weeks prior to judging day, to enable the hair to grow even, and the clipper marks to disappear. Clipped animals are easier to groom and keep clean.

The trimming or clipping of an animal's face should be done with due regard to its shape. It is not wise to clip the hair from the horn ridge or forehead of a narrow-faced animal; rather should it be left, and the hair clipped to a V-shape from the horn to the centre of the forehead between the eyes. This makes the face appear wider and shorter. The ears should always be clipped clean inside and out, so as to make them appear smaller and trimmer.

The udder and milk-veins may be clipped. With some breeds, viz., Ayrshires and Friesians, commence with the udder, and neatly clip it fore and aft, then work forward to the tips of the ribs, making a V-shaped point. With Jerseys and Guernseys clipping all over is practised generally.

In the preparation of stock, grooming is an important part of the work, and there is nothing better for putting a good shine on the hair than "elbow grease". Grooming tends to mellow the skin by stimulating the blood circulation, makes it healthy, causes the natural oil of the skin to rise, opens the pores, and causes them to function properly, the whole resulting in a shining coat of healthy hair.

The feet will require attention; trimming or paring should be done as soon as the animal is brought in for preparation. It will become accustomed to the new shape of feet, and will stand on its toes. Keep the feet in good form, and prior to leaving for the show-yard, clean up the hooves with emery cloth, so that all that will be required at the show-yard will be to polish them.

The horns of young animals may require training, but this should not be attempted until they have set at the base. The horns of Jerseys, Guernseys, and Friesians are in-curved; those of the Ayrshire are upward and outward with a backward curve at the tips. Horns can be in-curved by inserting a piece of wire through holes bored in the tips and twitched in the centre, the slack being taken up as the horns come in. The strain should be released as soon as the desired position is being reached. Horns may be raised by attaching them at the tips to a suspended weight over a pulley at the head of the animal. To do this it is necessary to stall the animal meanwhile.

Feet and horns should be polished; various grades of emery cloth should be used in the preparation. Strips of the cloth should be drawn see-saw fashion around the horn, and worked from the base to the tip. Do a little each day, and leave the final polishing until the last. This may be put on with jewellers' plate polish and woollen cloth or chamois leather.

Train the animal to lead freely and walk with a graceful jaunty step; to stand at attention; to move a foot at the touch of a cane; to hold its head in the desired position, and generally to look its best on parade or in the ring.

When entries are invited, the prospective exhibitor should enter his animals without delay; if in doubt as to the classes in which his stock are eligible to compete, he should write to, or interview, the Show Secretary.

Prior to leaving home for the Show, he should be certain that he is supplied with brushes, rugs, and rolling cloths. Otherwise he will have to rush around and try to borrow them from fellow-exhibitors, and so become a nuisance.

Be early to the ring and see that the necessary ticket is neatly suspended from the animal's neck.

[*Continued on page 439.*

The Working Horse

Care and Management on the Farm

By S. A. Mountjoy L.V.Sc., Veterinary Officer

A LITTLE extra care given to the horses on the farm will be well repaid by the extra work obtained from them. It should be the aim of owners to see that at all times their animals are in good condition and able to do the work required of them. Carelessness may often result in some of the animals being out of work due to digestive troubles, lameness, &c. This often occurs when times are busy and when it is essential that all horses should be on the working rather than the sick list.

Condition is fitness for the class of work required. The word is used to indicate the physical state of the animals, and they are said to be in poor, good, hard, or fat condition. This is to a great extent dependent on the health of the animal which is largely affected by the food and general management.

When first put to work they are "soft" and easily distressed so that at first the work should be reasonably light and gradually increased as the animals harden in condition until they are able to do a regular full day's work. It is impossible to exaggerate the influence of condition. No horse intended for work can be safely worked in its absence.

A horse out of condition may be so from any of the following causes:—(*a*) Overfeeding and not enough work; (*b*) too much work; (*c*) too much work combined with not enough food; and (*d*) as the result of lameness or sickness. A horse out of condition from too much work but receiving plenty of food is said to be "stale" and needs a rest.

Naturally the purer the water supply the better it is for the animal. Whenever possible, water troughs should be used and these should be regularly cleaned. On many farms animals are allowed to water at a water hole or dam. This is a bad practice as they pollute the water and puddle up the sides of the dam. Care should be taken to see that the catchments supplying dams are free from contamination. Whenever possible, horses should be watered before feeding.

As soon as the horses are unyoked, allow them to have as much water as they want. Do this even if the animals are hot, and then let a little time elapse before allowing them to eat. Sometimes, before the early morning feed, especially in the winter, they will not drink before eating. They may then be allowed to drink about half an hour after they have finished eating.

In comparison with the capacity of the body the horse has an extremely small stomach. This makes it necessary to give small feeds at frequent and fixed periods. The horse does not like a large quantity of food put in front of him at one time in the same way that a cow does. Four small feeds are much better than three large ones. Wherever possible, he should be given a small feed during the morning and afternoon rest periods, as well as his usual feeds.

Sudden changes in diet may be the cause of digestive troubles and should be avoided as much as possible. Any changes should be made gradually.

Good oaten chaff is sufficient as a maintenance ration, but for the working horse the addition of oats (preferably crushed) and bran is necessary. The amount of oats or bran used will depend on the amount of work being done. Horses being brought in from grass on to hard feed should be given at first a bran mash or two, then equal parts of bran and

(*Continued on page 432.*

Codling Moth & Black Spot

Journal of Agriculture, Victoria—August, 1939.

Third Annual Report of the Apple and Pear Demonstration Plots

THE proper control of pests and the maintenance of tree health are matters of vital concern to every apple and pear grower in this State, and they are factors which have a great bearing on the efficiency of the industry. Consequently the work being done on the apple and pear demonstration plots conducted by the Department of Agriculture, concerned as it is with these very problems, has created a great deal of interest in every district where plots are established. The more spectacular aspect of the work is that concerned with demonstrating the best methods of controlling the major pests of the industry, codling moth and black spot, both of which can prove limiting factors to efficient production. Another section of the work, though less spectacular, is fundamental, and consists of a series of artificial fertilizer trials and, in addition, a number of green manure trials.

There is scarcely any necessity to emphasize that the purpose of this work is to make a definite practical contribution to the efficiency of the industry particularly by improving the average standard of control of its major pests and diseases. With a grant from the Commonwealth Government to assist the apple and pear industry a series of plots for practical demonstrations was established in 1936 in all the main apple and pear districts of the State. These plots have served, and continue to serve, a most useful purpose in demonstrating the value of the Department's recommendations, and at the same time they suggest modifications which may be necessary before being applied to a wide range of commercial orchard conditions.

It is therefore pertinent at this stage to review the progress that has been made since the inception of the plots in 1936. It is, of course, too early to expect any results of immediate practical application from the artificial and green manurial trials, so that these will be dealt with in a later report. The past three seasons have not been particularly favorable for black spot, and there has been little opportunity to demonstrate completely

the efficacy of the spray schedules for controlling it under such conditions. This report will deal, therefore, mainly with codling moth, and since conditions in the past two seasons have been favorable for the activity of this pest it has been possible to effect considerable improvements in the recommendations for its control.

From the grower's point of view the most important consideration is the extent to which the results obtained have been utilized for the benefit of the industry. Naturally, it was not expected that the plots would effect a substantial improvement in the average standard of control in each district until the results obtained on them either over a period of years, or in difficult seasons, compared more than favorably with those obtained by the better growers. Distinct progress has been made in this regard, and each season more and more interest is being taken in the work by orchardists and fruit growers' organizations who are showing their appreciation of the advantages of this form of advisory service. The number of requests for additional plots, and the willingness of growers to provide the necessary facilities for conducting the plots, has convinced the Department that extension services of this kind are of value to the industry.

The most useful contribution from the plot work is the spray advice services which have been developed in each district. The value of knowing the best time to spray has been amply demonstrated. In the case of black spot it is not difficult for the grower to "time" the application of his own sprays since this is determined by the state of growth of the tree; but in the case of codling moth he has no easy method of determining the best time to spray.

The Department has therefore undertaken to provide growers with the necessary information in the form of spray advice circulars, notices in newspapers, and lure charts at strategic points within the district, wireless broadcasts, and so on. These services are being extended and improved gradually each year, and there is no doubt that within two or three seasons the great majority of growers will be covered by one service or another. The Department is convinced that by acquainting growers of the best time at which to apply sprays these services will eliminate what is probably one of the major causes of poor codling moth control, viz., faulty "timing."

The scope of these advisory services will be discussed in more detail in a later section of this report. It is proposed at this stage to outline the nature of the work which has been done on the demonstration plots, and the results which have been obtained.

SUMMARY OF RESULTS.
1936-37 to 1938-39.

During the 1938-39 season demonstration plots were conducted on 24 properties, which included 17 of the original 23 properties on which plots were established in 1936. The new plots established in 1938 were those at Shepparton (Mr. A. W. Fairley), Pomonal (Mr. R. Herbert), Tyabb (Messrs. G. G. Cole and Sons), Amphitheatre (Mr. J. Mill), and Strathewen (Mr. W. Horn). Unfortunately, the bushfires caused severe losses to growers in the Pomonal and Strathewen districts, and as a result the data for last season is incomplete.

Codling Moth.

Although conditions in 1936-37 were not particularly favorable for codling moth activity, the following two seasons proved exceptionally favorable. This is best indicated by the composite lure graphs (Fig. I.) for each season, from which can be seen the relatively restricted and late activity of the spring brood in 1936-37 and the relative inactivity of the later broods as compared with the following seasons. The 1938-39 season provided the most favorable conditions for the activity of the spring brood, and in this respect has been the most difficult season so far experienced. The later broods of 1938-39, especially in the hot inland districts, were not so active as expected, due perhaps to summer temperatures being somewhat over the optimum for moth activity.

It is not always easy to determine from lure records the precise number of broods which occurs each season, since lure records are simply records of moth activity after emergence and not actual emergence. The reason for this is that the temperature conditions which favour emergence do not necessarily favour moth activity. Life history studies in Victoria have indicated that the egg-adult period in Victoria is approximately 60 days. In 1936-37, owing to unfavorable conditions for moth activity, there was practically no indication of the presence of first brood moths except for a slight increase in activity 60 to 75 days

after the peak of the spring brood. It can be imagined that under those conditions little difficulty was experienced in controlling codling moth. In the following two seasons conditions were quite favorable for the activity of first and second brood moths, and there were few districts in which these broods were not prominent.

Another important feature of moth activity which is of considerable practical importance is the variation which exists between districts. This manifests itself in various ways, such as the time of commencement of spring brood activity, the time at which peak activity for each brood occurs, and the number of broods. Thus there is a range of conditions from those at Stanley, where one brood only is normally active, to conditions in the Goulburn Valley, where moth activity commences earlier than in any other district, and two or three broods are experienced.

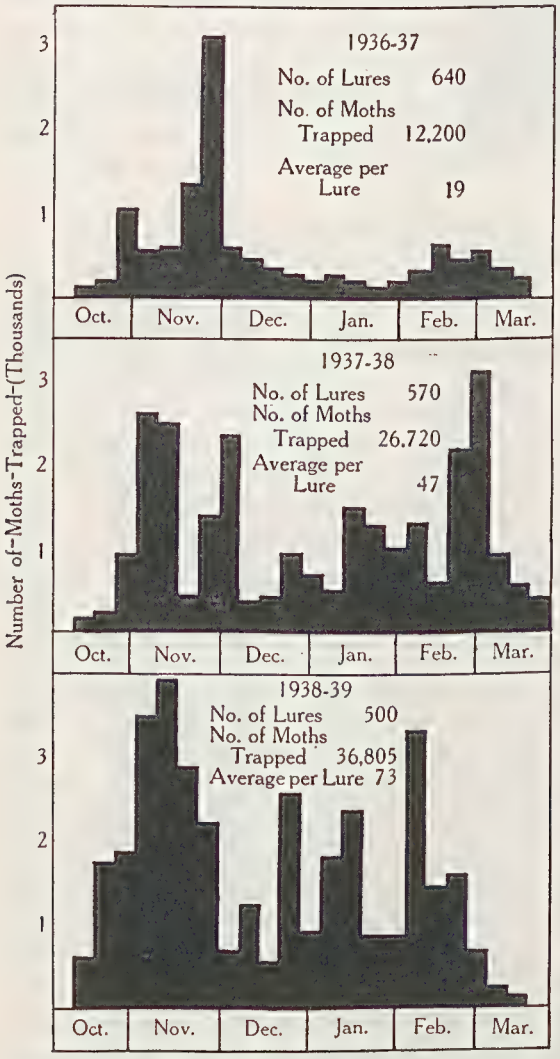

Fig. 1.—Showing the total number of moths trapped each week in all lures on demonstration plots during the seasons 1936-37, 1937-38 and 1938-39. The graphs indicate the difference in codling moth activity for the three seasons.

The recognition and definition of these differences are extremely important in the matter of adapting the departmental recommendations to various localities. Even at this early stage it is possible to distinguish, on the basis of lure records, experience on the demonstration plots and general observations in each district, four classes of district for which distinct control measures will be recommended next season.

The results obtained during the 1938-39 season are given in Tables I. and II., and for detailed accounts of the previous two seasons' results, the reports published in the August and September, 1937, and August, 1938, issues of this Journal should be referred to. In the present report the results obtained during the three seasons will be considered as a whole, and for this purpose it is convenient to establish some arbitrary standard of infection above which results could be regarded as being unsatisfactory. Experience obtained on the demonstration plots indicates that in Victoria more than 7.5 per cent. infection for apples, or more than 5 per cent. for pears, would be regarded by the Department as unsatisfactory. This would be for average crops, and the infection would include the total stings and entries of both picked and all windfall fruit. Those plots which have been singled out for comment as being unsatisfactory are those in which these broad standards have not been attained.

In view of the emphasis placed in Victoria on the use of lures for timing sprays it is of interest to record that the 10 per cent. wine lure has displaced all others for use on demonstration plots. The vinegar lure used previously was found to be lacking in "sensitivity," and was the least effective of several tested. Apple juice, and cider are good lures, and can be recommended for use. Golden syrup and molasses are useful but less reliable than wine, inconvenient to handle, and prone to trap a large number of extraneous insects. The type of wine used is a sweet, red wine of the port type.

Apple Plots.

In the inland districts, Harcourt, Strathfieldsaye, Quantong, Pomonal, and Amphitheatre, the tendency has been to place great reliance on the use of summer white oil for codling moth control, and the number of oil sprays used during the season far exceeds that provided for in the original departmental recommendations. The reason for this is that indifferent results were obtained with arsenate of lead wherever it was used throughout the season as at Harcourt and Strathfieldsaye in 1936-37, or where it was relied upon for the control of the first brood as at Quantong, Pomonal, and Amphitheatre in the first two seasons. It was recognized that contributory factors in the poor results at the last three centres were inefficient spraying (these plots were the only ones showing substantial calyx infection) and imperfect timing. Nevertheless there was ample opportunity during the favorable seasons of 1937-38 and 1938-39 to observe the poor results obtained by growers with arsenate of lead, even where the time of application of the spray could not be faulted. For such growers the alternatives were to increase their equipment and so increase the frequency of lead arsenate sprays, or to increase the efficiency of the spray mixture by the addition of some material, such as white oil, to act as a sticker and ovicide.

The schedule recommended by the Department at the outset was one in which two, three, or four summer white oil sprays replaced the usual arsenate of lead sprays late in the season, say from the end of December until harvest time, but, in view of the encouraging results obtained with oil at Harcourt and Strathfieldsaye in 1936-37, it was decided in the following seasons to extend its use for the control of the

TABLE I.—CODLING MOTH INFECTION, 1938-39.
Apple Plots.

District.	Orchard.	Variety.	Schedule.	Number of Trees.	Average Yield of fruits Per Tree.	Number of Infected Fruit. Per Tree.	Infection Due to Codling Moth.
							%
Tyabb	S. Borley	Jonathan	A	150	509	5·0	1·0
,,	,,	,,	B	150	462	6·8	1·5
,,	G. Cole	,,	A	112	438	26·5	6·0
,,	,,	,,	B	112	387	39·0	10·2
Red Hill	G. Brown	,,	A	154	566	20·0	3·6
,,	,,	,,	B	128	774	40·3	5·2
,,	,,	Rome Beauty	A	36	40	6·6	17·4
,,	,,	,, ,,	B	64	60	13·0	22·1
Wantirna	J. Murdock	Jonathan	A	144	447	19·0	4·1
,,	,,	,,	B	144	506	30·0	6·0
,,	,,	,,	C	72	574	19·0	3·3
,,	,,	Delicious	C	56	511	17·0	3·2
Croydon	D. Lipscombe	Jonathan	A	152	798	102·0	12·6
,,	,,	,,	B	74	819	67·0	7·8
,,	,,	,,	C	74	767	32·5	4·2
,,	,,	Granny Smith	A	25	648	274·0	42·5
Upper Pakenham	G. Woolf and Sons	Jonathan	A	152	600	13·6	2·3
,,	,, ,,	,,	B	169	560	21·5	4·1
Batesford	M. Ellwood	Dunn's	A	69	97	4·0	4·2
,,	,,	,,	B	69	132	5·0	3·7
,,	,,	Jonathan	B	66	256	5·2	2·0
,,	,,	Rome Beauty	B	64	254	5·0	2·3
Panton Hill	S. Cracknell	Jonathan	A	114	315	10·0	3·1
Quantong	R. Gersch	Cleopatra	C	105	721	39·0	5·4
Amphitheatre	J. Mill	Jonathan	C	112	92	1·6	1·7
Stanley	N. Pope	Delicious	A	30	1,255	10·5	0·8
,,	,,	London Pippin	B	100	410	5·4	1·3
,,	,,	Granny Smith	A	56	160	6·2	3·8
Harcourt	W. Eagle	Dunn's	C	82	856	32·0	3·5

(*Continued on page 443.*

Green Manuring for Potatoes

By J. T. Ramsay, Potato Expert

Ploughing-in a green manure crop for potatoes.

THE fact that the potato plant thrives on virgin land in districts with good rainfalls clearly indicates that this environment is suitable to it; therefore it is but stating the obvious to say that, if good crops are to be the rule, the conditions prevailing when virgin soil is first broken up should be aimed at when preparing older worked land for the crop, and these can be attained only by adding organic matter to the soil from time to time in the form of green manure. Green manure is the name generally given to a crop which is grown specifically for the purpose of being ploughed under in order to enrich the soil from the chemical and bacterial standpoints, and to improve its physical condition.

Vegetable matter is the most important factor in determining the physical condition of the soil, and it should be borne in mind that the need for good physical condition is greatest where it is most difficult to retain it. In a climate such as that of Victoria, where it is customary to experience long spells of dry hot weather, it is only by the observance of good farm practice that the vegetable matter, or humus, can be saved from incineration and maintained at an appreciably beneficial standard.

Under the system followed by many at the present time, each succeeding year sees a depreciation, in both the fertility and mechanical condition of their soils that are under cultivation. The tendency has been to take all possible out of the soil without consideration for the future, with the common result that the humus content has been gradually reduced until frequently a state bordering on absolute depletion is reached, and the soil thereby rendered difficult to work and uncongenial to crops.

Such a system of robbing the land may yield payable returns for a short period, but if farming is to continue to pay, the farmer must improve the condition of his soil from year to year. It is the greatest possible mistake to allow land to become run down before attempting to check the depreciation.

If a proper system of farming, i.e., the rotation of crops, periodic green manuring, and catch cropping, is followed the impairment of the physical state of the soils can be prevented. In the older farmed countries of the world a profitable physical condition of the farmed lands has been maintained only by the application of large quantities of organic matter, and if the productiveness of the land here is to be even maintained, that same procedure of ploughing in vegetable matter must be followed in order that the soil condition necessary for the free development of the potato plant may be secured.

The incorporation of a plentiful supply of organic manure with the soil, increases its capacity for the absorption and retention of moisture, thus providing a regular supply for the wants of the potato crop during the period of growth. This is a considerable factor in reducing the risk of second growth.

There are various crops which, because of their comparatively low cost of production, and their capacity to produce in material quantity the essentials required for soil improvement, are suitable for employment as green manure crops. The principal of these are rye, oats, peas, barley, and mustard. With the exception of mustard, which is spring sown, these crops should be sown in autumn, the earlier the better, and in all cases they should receive 1 cwt. super. per acre in order to promote rapidity and volume of growth.

The best time to turn under these crops is when the shot blade makes its appearance. At this stage the plant has attained considerable bulk, and is at about its highest degree of succulence. This succulence is important, as if turned under at that stage, decomposition follows very quickly, which is desirable. No difficulty need be found in complete burial of the green crops if a mould board plough is used.

A moderately light chain should be attached to the near end of the plough rack, of sufficient length to reach beyond the tail of the mould board. This chain, dragging in the furrow, with the weight of the overturned soil on it, curls in the green stuff growing on the sod and effectively covers it. Should the weight of the chain of itself be insufficient to effect the covering, a plain elongated iron weight can be attached to increase the drag. Rolling after ploughing is helpful in hastening the decomposition of the green matter.

It should be noted that, if the stems of the crop are allowed to become too dry and fibrous before being ploughed under, the object for which the crop has been grown will be defeated, particularly if the weather following ploughing be dry. Occasionally, growers have ploughed under what was practically a straw crop, with most harmful results when a dry season followed. In such cases, insufficient moisture was present to permit the decay of the straw, and the land remained puffed up with this bulk of dry material, to the detriment of the potato crop following.

Formerly, a grass and clover mixture was considered an excellent green manure for a potato crop. Unfortunately, however, clovers form an admirable host for eelworm, which has spread so much in late years and which so seriously affects potatoes in drier seasons. For this reason it is generally inadvisable to follow grass and clover with a potato crop.

Wireless Talks for Farmers

WITH the co operation of the Australian Broadcasting Commission, the Victorian Department of Agriculture is conducting a series of wireless talks on subjects of particular interest to the man on the land. These talks are being broadcast from the regional stations, 2CO (Corowa), 3GI (Gippsland), and 3WV (Horsham) on Friday evenings, the 15-minute sessions commencing at 7.40 p.m.

The next talks will be on 8th and 22nd September.

In order that these talks might be of maximum value to the farming community the Department is anxious to have the co-operation of listeners, who are invited to submit questions they would like answered over the air. If you have any particular problem connected with the management of your farm, your crops, or your live stock, or with the marketing of your produce, send a letter to Mr. J. Keane, B.Agr.Sc., Department of Agriculture, Melbourne. Your problem will then be submitted to expert officers of the Department, whose advice will be given. If you do not desire your name broadcast use initials or a nom-de-plume, but do not omit to mention your district.

American Foul Brood

Method of Control

By
J. S. Eagland,
Apiary Inspector

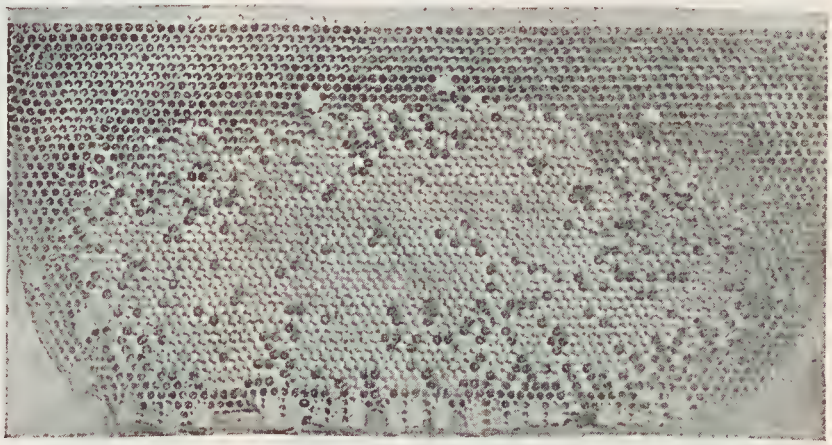

Fig. 1.—The comb of a healthy brood. Queens' cells are shown also.

AMERICAN Foul Brood, which is caused by a germ known as *Bacillus larvae,* is easily the most serious brood disease in bees, being both contagious and incurable. It attacks the larva, or the brood as it is usually called, and the whole of the brood nest gradually becomes infected. Reproduction thus decreases, and the disappearance of the colony inevitably ensues. In Victoria, fortunately, the disease is rare, though individual outbreaks have at various times been recorded from widely scattered areas. Any sign of trouble in a hive must be regarded with suspicion, until the cause is ascertained.

The apiarist should make himself familiar with the appearance of healthy brood in the unsealed stage, and also (by removing the cappings) in the sealed or pupa stage. Normal larvae are pearly white in colour, and are curled, making almost a complete circle in the base of the cell. On pupating they stretch out lengthwise in the cell, but keep their white colour until attaining the form of the adult bee, then they gradually darken until emergence, when their colour is that of the fully developed bee.

As the larva is usually affected when approaching the pupal stage, it pupates or seals its cell before death, so that the observer has to depend on some peculiarity in the capping of the cell to suggest that all is not well. After death the larva or pupa first turns a pale yellowish colour, gradually deepening with age, to a dark coffee-brown, and is of a sticky or slimy consistency when stirred or probed.

The cappings of the cells containing diseased brood gradually become darker in colour. This is first noticeable at the lower edges, but soon covers the whole capping. Normal cappings of brood are convex (Fig. 1), although sometimes they may be almost or even entirely flat. The cappings of diseased brood soon become either flat or concave (Figs. 2 and 2A), and frequently contain irregular perforations which have been torn in them by the adult bees (Fig. 3).

On opening a diseased cell (this should be done with a match or stick, not the hive tool or finger-nail; the stick afterwards to be left pushed into the comb or destroyed) the larva will be found to have slumped or sagged down on to the lower wall of the cell; usually more so at the front than towards the base, although a slight point will be noticed where the mouth parts of the bee would normally develop (Fig. 4).

If the remains are stirred with the stick, they will be found to be gluey and of a slimy or elastic condition, so that the stick may be lifted from ¼ to ½ an inch before the mass parts from it (Fig. 5). With age the remains dry into a scale on the lower wall of the cell, and are then distinguishable from other forms of death by their adhering to the cell wall and sometimes by the raised point, previously referred to, at the place where the mouth develops (Fig. 4).

The name "foul brood" implies an unpleasant odour; this is very noticeable in advanced cases, and is often likened to the odour of stale glue, but the writer's experience is that most beekeepers cannot pick out diseased hives by the smell until they have become very badly infected, and sometimes not even then.

To examine a hive for foul brood, open in the normal way, provided there are no robber bees about. If robbers are active, leave the examination until late evening, or some other suitable time. On opening the hive be particularly careful not to spill any honey. If there are any supers stand them on the inverted lid, or if the lid is faulty, place them on their end on the ground, or partly on the lid in such a position that any drip will fall on the lid. To examine the brood, first shake most of the bees off the comb to be examined; if no doubtful looking cappings are observed, hold the frame of comb in such a way that the sun's rays will penetrate the cells. This gives an opportunity to study the larva in the unsealed cells, also to see through the holes in any perforated cappings.

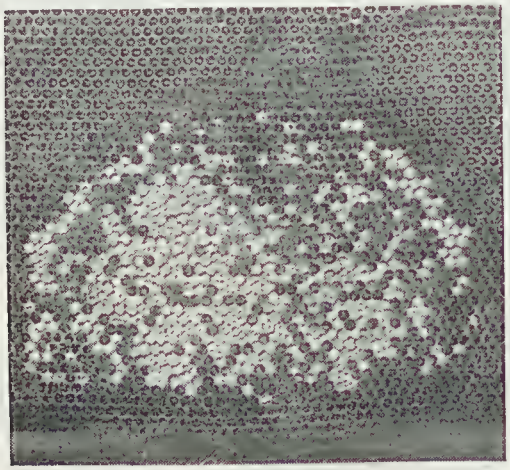

Fig. 2. Comb of diseased brood—about 30 per cent. infection.

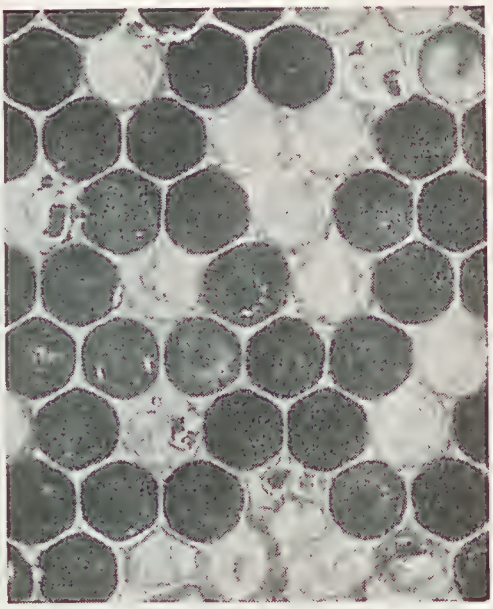

Fig. 3.—Enlarged section of comb showing perforated cappings over diseased brood, also healthy larvae (unsealed) and normal cappings of brood.

Normally, brood is sealed more or less on a face according to age, and often tends to a circular formation. The presence of sealed brood in scattered formation, or isolated cells of sealed brood, should always be regarded with suspicion, and examined carefully for evidence of disease.

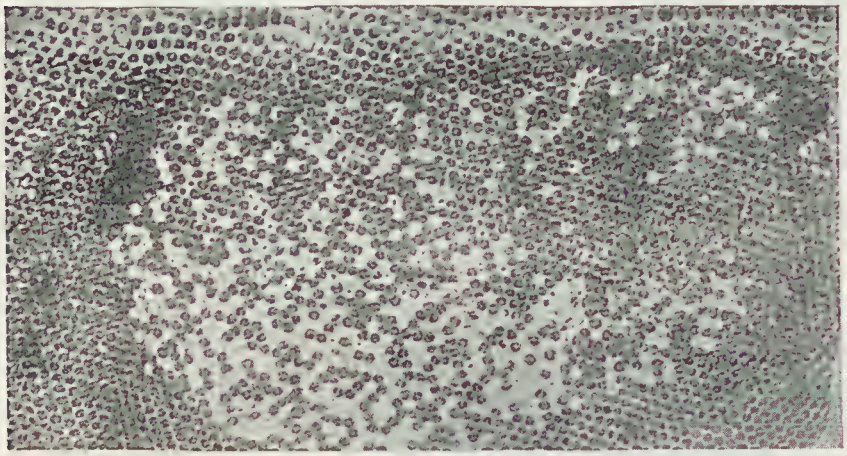

Fig. 2a.—Comb of diseased brood—about 90 per cent. infection.

If at any time doubt exists as to the cause of dead brood found in a hive, cut out a piece of the dead brood, place it in a small tin or other safe container, and post it to the Chief Veterinary Inspector, Department of Agriculture, Melbourne, C.2, for a diagnosis.

The safest method for disposing of an infected colony is as follows:—First, contract the entrance

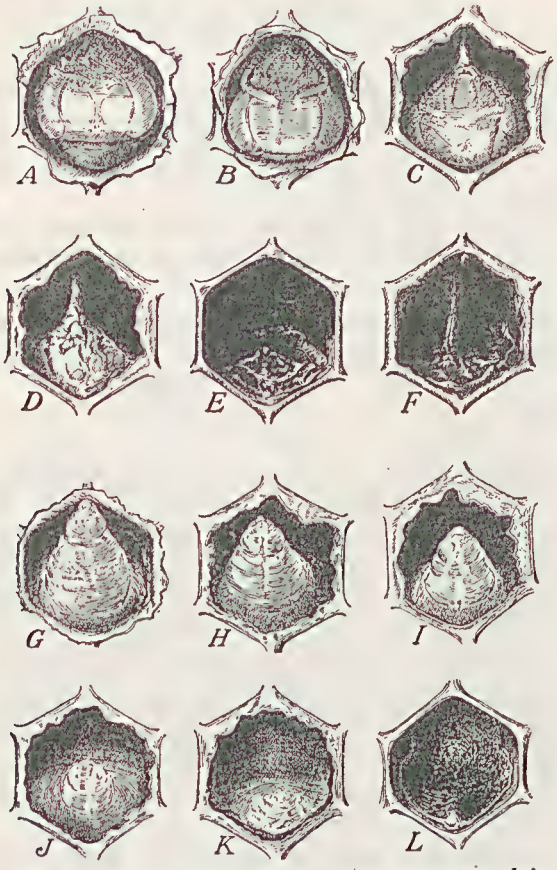

Fig. 4.—Symptoms of American foul brood in larvae and pupae. A. Healthy pupa. B. to F. Stages in the decay and drying of papue. G. Capping removed from healthy larva. H. to L. Stages in the decay and drying of larvae.

[U.S.D.A. Circ. 392:

to prevent access to robbers, then dig a fairly large hole, say 2 ft. x 2 ft. x 1 ft. deep near the hive, and in this prepare a fire ready to light. In the evening, when no bees are flying, kill the bees in the infected hive by the use of a suitable fumigant, or even burning sulphur in the smoker, then light the fire, and when it is burning freely, place the complete hive on it, taking care that nothing spills on the ground outside the hole. After the fire, has died down fill in the hole, and so bury any remains that have escaped burning. This must be done the same night.

Another precaution which might well be taken is to burn over the ground in front of the position occupied by the diseased hive. This is best accomplished by spraying the ground with kerosene or oil and lighting some waste material on it. This may appear somewhat unnecessary but the bees, in cleaning out the combs, pull out a lot of the dried scales of diseased larvae and drop them outside the hive entrance. If another hive be placed in the same position it may then become infected when the field bees alight on the ground prior to crawling into the entrance.

If it is desired to keep the hive body, floorboard and cover; on arrival at the fire with the hive, remove the cover, and place the frames of comb and the dead bees on the fire. The parts to be saved should be given a thorough scorching with a blow-lamp, if not immediately as soon as practicable, or else boiled for half an hour in water to which washing soda has been added. It is possible to save the bees too, and even the frames, but not the combs. However, these practices are not advised, for the risk of spreading infection during treatment is very great.

Observance of the following rules will greatly assist beekeepers in the prevention of foul brood, and in its eradication when present in the apiary:—

1. Have no queenless colonies; they will not defend their hives, and will thus establish robbing habits in the apiary.
2. Do not allow bees to have access to honey, combs, wax, or hive refuse, even when quite free from disease; bees should know of no other source than the nectar of flowers.

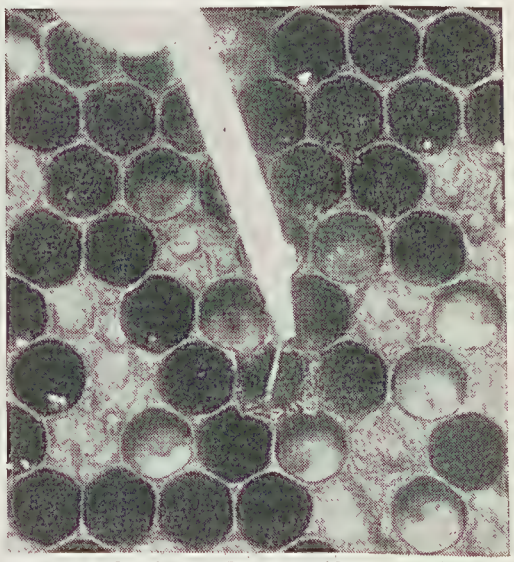

Fig. 5.—Sticky or elastic condition of decaying larva. (Enlarged)

3. Never feed honey to bees; it may contain disease germs, it excites them and induces robbing. Sugar syrup is safer, and just as good for feeding.
4. Do not try to cure foul brood by requeening alone, or by doctoring diseased cells, or cutting them out. It will delay the course of the disease, but will not cure it.
5. When examining combs for disease, do not use your finger nails to open the cells, but a match, toothpick, or straw. Use a fresh one for each hive, and burn those used.
6. Do not try to cure the disease by giving the bees medicated food. Any drug given strong enough to destroy the germs of foul brood would kill the bees.
7. Do not interchange combs between the different hives while there is disease in the apiary.

The Working Horse *(Continued from page 422.)*

chaff gradually reducing the bran and allowing crushed oats instead. By this gradual process they can be brought on to their normal working ration in about a week.

It is a good idea to have salt blocks in the mangers. These contain *ordinary common* salt. A horse should be given half an hour's rest after eating a large meal. If this cannot be allowed he should not be permitted to exert himself unduly for half an hour or so.

During periods of rest, such as week-ends, &c., the grain ration should be reduced and light feeds allowed. On most farms horses are turned out at night, and during certain times of the year are able to get green grazing. This is very beneficial. If there is no green grass available it is a wise practice to give a couple of packets of epsom salts in a small bran mash each week-end.

Horses stabled at night should be given hay the last thing at night. When fed away from the stables, the horses should be fed separately. When several are fed together the nervous ones will be prevented from getting their share and what they do get is often bolted. The greedy feeder bolts his also, so that he can get some of the others' share. In both cases the food is not chewed enough and indigestion may result. Horses noticed to be dropping their food or slobbering should have their teeth attended to.

Stables should be roomy, well lighted, and well ventilated. The roof should be rainproof. Mangers should be constructed so that they can be easily cleaned. Stalls should be at least 5 ft. 6 in. in width. The floors should be of some impervious material and with a gentle slope from front to rear to allow drainage to the back of the stall. Stables should be cleaned out daily.

Grooming is an important item which is often neglected—particularly in the case of draught horses. Apart from the health standpoint a daily grooming is necessary for the comfort of the animals. Horses running out at night require one grooming a day to remove the actual dirt from the coat. The best time to do this is in the morning. Washing is a harmful practice and should not be carried out unless the animal is thoroughly dried afterwards. Mud should be left on the body and legs until it is dry when it can be removed with a dandy brush.

The winter coat, on an animal required to work hard, keeps it in a constant sweat and prevents rapid drying of the skin after exertion. At least half-clipping is advisable for farm animals. The clipped horses not only maintain condition better but are capable of a greater amount of work, besides being easier to keep clean. Rugging in the winter is advisable.

When shoeing is carried out this should be regularly attended to. If shoeing practice is not adopted the feet should be trimmed regularly to prevent breaking away of the wall. Horses with brittle feet should always be kept shod. There is an old saying "no foot no horse," and a little extra attention paid to the horse's foot will be well repaid.

Harness should at all times be fitted to the horse and not the horse fitted to the harness. Collars, particularly, should be used only on the horses for which they are fitted. Harness allowed to become dry and hard may cause "chafing." To prevent this and also to prolong its life, harness should be regularly washed and oiled.

Some Lactation Studies

Effects of Time of Calving, etc.

By A. C. T. Hewitt, M.Agr.Sc., Livestock Science Officer

THE following article deals with a study of the lactations of Red Poll and Friesian cows, at the State Research Farm, Werribee, between 1925 and 1939. Articles relating to the history (2) (9), breeding (1, 3, 4, 6), and feeding (7) (8) of the herd have appeared in previous issues of this Journal, but a brief summary of the grazing and supplementary feeding systems adopted is given here. It is intended to show what influence the length of pregnancy, the time of year when the cow calves, and the length of dry period have on the cows' 273 days lactation period. Further, the influence of the season on the gestation period and the birth weight of the calves is also shown.

Grazing and Supplementary Feeding.

It is not intended to discuss in full, details of the methods of grazing and supplementary feeding, since many changes and variations, most of which have been beneficial, have been made over the fourteen years' period. During this time the number of cows milked was gradually increased from 50 head in 1925, to 85 in 1933. The latter number, approximately, is being milked at the present time.

Grazing Methods.

Prior to September, 1928, the cows were grazed during the day time only, and grazing was then limited to two sown, top-dressed, irrigated pasture paddocks of a gross area of 23½ acres. During the night the cows were held in yards where they had access to hay in racks and silage in troughs. They also received chaff and concentrates in the bails.

Since September, 1928, the cows have been grazed night and day throughout the year, and, as soon as this practice was adopted, a third pasture paddock of nearly ten acres was made available to them. Some months later, a fourth paddock of ten acres was also provided. In January, 1931, the original two paddocks each were subdivided into two, giving six paddocks with a gross area of 43½ acres. In January, 1932, a seventh paddock of 26½ acres was added to the cow-grazing pastures, and this area was subsequently subdivided into three in September, 1936. To-day, the milking herd of approximately 85 head is rotationally grazed on 70 acres of good, top-dressed, irrigated pasture, originally sown down with various clovers and rye, cocksfoot and prairie grasses.

Rotational grazing has been practised throughout the whole period, but, as additional pastures have been added, better rotational grazing systems have been introduced and, to-day, a very satisfactory system is in use. The milking herd of 75 to 90 head is divided into two herds A and B. Herd A comprises the fresher and heavier milking cows which graze the paddocks ahead of herd B which acts as a follower, but each paddock is usually rested for two days between grazings. The rotational grazing cycle is completed every 28 to 30 days. This method of rotational grazing has proved to be the most satisfactory of the several methods practised, at Werribee. Usually, in December, two of the paddocks which are shut up during the spring are cut for hay.

Supplementary Feeding.

Originally, bran was the principal supplementary concentrate fed to the Werribee herd, but, since 1931, it has been almost wholly displaced by ground wheat, barley, and, to a lesser extent, oats. Since 1936, during the winter when the protein-rich pastures supply only a small proportion of the total requirements of the cows, meat meal has been added to the ground wheat and barley in the proportion of one part of meat meal to five parts of wheat or barley. For the summer rations, when there is an abundance of succulent pasturage, one part of meat meal is added to ten parts of grain.

Excellent results have been obtained from the feeding of meat meal as a protein supple-

ment, for not only has the milk yield been increased, but the butter-fat content of the milk has also been raised.

The average amount of meat meal fed per cow has varied from half a pound per day during the winter months when hand-feeding is heaviest, to one ounce per day during the late spring and summer when hand-feeding is at a minimum. During the summer of 1939, when drought conditions prevailed, the usual summer rations had to be altered to a point approximately midway between the usual summer and winter rations.

The roughage (mixed shandy and/or straw chaff) portion of the rations is not varied according to milk yield, but it is varied seasonally. A fixed amount is fed to each cow. The concentrate portion of the supplementary rations is always measured according to the individual yields of the cows and the season of the year, but cows producing less than certain quantities of milk receive no concentrate. In the summer, the best cows are fed up to 8 lb. concentrate daily, while the average amount fed to each cow in the herd is under 2 lb. per day with 6 lb. chaff. In the winter, the average daily supplementary ration works out at approximately 4½ lb. concentrate and 18 lb. chaff, but the top cows (producing 6 to 8 gallons) receive up to 20 lb. concentrate per day. While the cows are dry, they are grazed on other irrigated pastures, usually in direct competition with sheep. During July, August and September, they are given supplementary rations of grass hay and oaten silage.

Effects of Pregnancy on Yield.

In this survey of the effect of pregnancy on the 273 days' lactation period, 586 Red Poll and 143 Friesian lactations performed at the State Research Farm, under the conditions of the Victorian Government Standard Herd Test have been dealt with. The material for the

TABLE 1.—THE AVERAGE ACTUAL DAILY MILK YIELDS FOR EACH MONTH DURING THE LACTATION PERIODS OF COWS IN CALF FOR DIFFERENT LENGTHS OF TIME AT THE CLOSE OF THE 273 DAYS' LACTATION—STATE RESEARCH FARM, WERRIBEE.

Duration of Pregnancy of Cow.	Number of Cows.	Average Actual Daily Milk Yields for each Successive Month after Calving.									Average Milk Yield for 273 Days.
		1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	
RED POLLS.		lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Not in calf	39	35	34	31	27	26	24	23	22	21	7,448
Under 1 month	15	31	31	30	27	27	25	22	22	21	7,189
1 to 2 months	25	33	33	31	29	27	26	24	22	21	7,514
2 to 3 months	34	33	33	31	29	27	25	23	22	20	7,397
3 to 4 months	53	34	34	31	28	26	27	22	21	19	7,279
4 to 5 months	103	34	33	31	28	26	27	22	21	19	7,283
5 to 6 months	204	35	35	32	29	27	25	23	21	18	7,445
6 to 7 months	102	37	35	31	29	26	25	23	21	16	7,392
7 to 8 months	11	33	30	29	27	27	26	24	21	17	7,067
Over 8 months	Nil	..	..	..	..	..	..	..	..	..	..
Average	..	35	34	31	29	26	25	23	21	19	7,324
FRIESIANS.											
Not in calf	8	38	45	43	38	38	36	33	32	29	10,022
Under 1 month	4	57	64	60	55	49	46	42	34	30	13,205
1 to 2 months	3	60	56	56	57	54	53	49	45	43	14,317
2 to 3 months	11	43	44	41	37	35	33	31	28	27	9,651
3 to 4 months	13	51	54	49	47	45	42	40	38	33	12,002
4 to 5 months	25	51	51	50	46	43	40	36	33	30	11,476
5 to 6 months	38	54	55	51	47	44	41	39	36	31	12,020
6 to 7 months	37	52	52	49	46	45	42	39	26	29	11,746
7 to 8 months	4	59	59	52	50	47	47	37	34	29	12,545
Over 8 months	Nil	..	..	..	..	..	..	..	..	..	..
Average	..	51	52	49	46	44	41	38	35	30	11,658

TABLE 2.—THE AVERAGE ACTUAL DAILY MILK YIELDS FOR EACH MONTH DURING THE LACTATION PERIODS OF COWS WHICH CALVE DURING DIFFERENT MONTHS OF THE YEAR—STATE RESEARCH FARM, WERRIBEE.

Calving Month of Cow.	Number of Cows.	Average Actual Daily Milk Yields for each Successive Month after Calving.								Average Milk Yield for 273 Days.
		1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.
RED POLLS.		lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
January	50	35	35	31	27	24	22	21	20	19	7,079
February	54	36	33	29	26	23	22	21	22	19	7,046
March	51	34	33	29	26	25	24	23	23	21	7,256
April	45	35	34	31	28	27	27	25	24	21	7,655
May	30	35	33	30	29	28	27	26	24	19	7,535
June	29	33	31	31	30	28	27	27	24	22	7,676
July	29	33	32	31	29	28	27	24	22	19	7,431
August	51	35	35	33	31	29	27	25	22	18	7,724
September	61	35	35	33	31	28	26	23	20	17	7,529
October	68	34	34	31	28	27	24	22	19	16	7,087
November	50	34	34	31	27	25	23	19	18	17	6,888
December	58	36	37	33	29	26	23	21	19	18	7,272
Average	..	35	34	31	29	26	25	23	21	19	7,324
FRIESIANS.											
January	7	59	60	53	50	48	43	39	38	35	12,852
February	13	52	57	51	44	42	38	36	36	29	11,642
March	6	48	43	40	36	37	37	37	31	26	10,124
April	6	48	45	43	43	41	42	39	38	34	11,308
May	7	48	45	43	43	45	46	45	44	37	12,006
June	12	39	42	41	39	39	38	34	33	29	10,112
July	13	44	45	44	40	38	35	33	28	26	10,070
August	16	54	56	53	51	50	48	45	41	33	13,060
September	12	52	54	52	50	47	44	38	35	30	12,078
October	18	57	62	57	54	51	46	42	39	31	13,260
November	16	52	50	42	44	41	37	33	29	27	10,711
December	17	55	55	52	46	41	36	32	30	29	11,389
Average	..	51	52	49	46	44	41	38	35	30	11,658

tables has been collected from the Standard Herd Test data and the breeding records of the studs concerned.

In Table 1, the cows are grouped according to the length of time that they are in calf, and the average daily milk yield for each successive month after calving and the total milk yield for the 273 days' lactation period are shown for each group. The information concerning the Red Polls and Friesians is shown separately. The milk yields shown are the actual averages for all complete 273 days' lactations during the period under review, and have not been corrected for age or other variable characters. The figures for butter-fat have not been shown because they follow the same trend and give similar information.

It will be noticed that the average actual milk yield of the 586 Red Poll lactations is 7,324 lb. milk, and that the eleven Red Poll cows which were in calf for from seven to eight months of the lactation period produced only 257 lb. less milk than the average, indicating that pregnancy occurring within one and two months of calving does not materially affect the milk yield of a herd. Incidentally there is no evidence, whatsoever, to suggest that milk is increased by leaving a herd of cows empty for a longer period than is necessary for them to re-calve within the year. Similar conclusions are drawn from the figures for the Friesian herd, but, in this case, the yields are more variable on account of the smaller numbers.

A further perusal of the figures in this table reveals the information that at no stage of pregnancy, up to between the seventh and eighth month at any rate, is the milk yield for

a herd of cows suddenly reduced. In neither herd have any cows become pregnant within one month of calving. Under the present system of management, the usual procedure is to mate the cows at the first opportunity after they have been calved ten weeks.

In a recent study of 253 Friesian records at the Wisconsin University, Chapman and Dickenson found that dairy heifers should have their first calves at approximately two years of age for the most efficient lifetime production. At the same University and working with Casida, Chapman deduced the fact that more production and consequently more profit resulted when cows freshen every ten and a half to eleven and a half months. Mating the cows more promptly after calving keeps up the milk flow most of the time, without any evidence that this lessens their efficiency in later months of the lactation.

Effects of Season.

It is intended to deal only with the effect of the season of the year during which the lactation is commenced on the subsequent 273 days' lactation yield of the cow, although it might be mentioned that as far as the daily milk yield per cow per day is concerned, the yield during July, the severest month of the year, is only 75 per cent. of what it is from October to March where the average daily yield has been fairly level since 1931.

Table 2 is compounded similarly to Table 1 except that the cows are grouped according to the month during which they calve. It will be noticed that both the Red Poll and Friesian cows which calve during June and July commence their lactations producing lower quantities of milk than do cows commencing their lactations at other times of the year, but, nevertheless, this initial handicap does not reduce the yields of the June and July calvers below the average.

By casually glancing at this table, it looks as though the lactation yield is not affected by the season of the year during which the cow calves, but a closer examination indicates that both Red Poll and Friesian cows calving between April and September, inclusive, produce more milk and, as a consequence, more butter-fat under conditions at the State Research Farm, Werribee, than do cows calving between October and March, inclusive. This point is explained further when dealing with Tables 3 and 4.

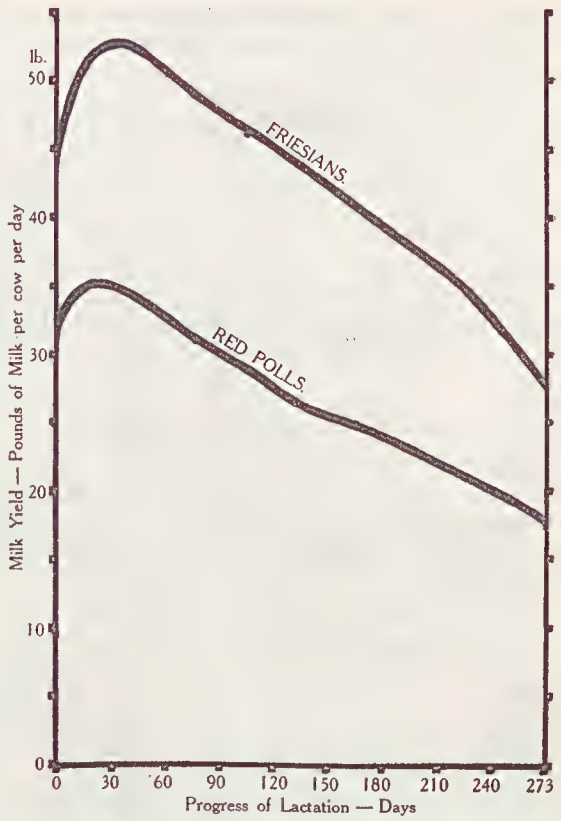

Fig. 1.—The average daily milk yields of herds of Red Poll and Friesian cows during the 273 days' lactation period.

Other points of interest in connexion with Tables 1 and 2 are that Friesian cows produce about 17 lb. more milk per day during the first month of their lactations, increase in their milk yields slightly during the second month, and then commence to drop regularly but fairly steeply until during the ninth month the daily yield is only 11 lb. better than the Red Polls. On the other hand the Red Polls drop in yield after the first month, but, as may be expected from cows producing smaller quantities of milk, the drop is more gradual than with Friesians. These points are shown graphically in Figure 1.

In Table 3 are data collected since September, 1928, and shows separately for Red Poll and Friesian cows, the average birth weights (5) of the calves born during each month, and the average gestation periods and mature equivalent milk and butter-fat yields of cows calving in different months of the year. Although the birth weights of the calves and the gestation periods show slight variations from month to month, the differences are not

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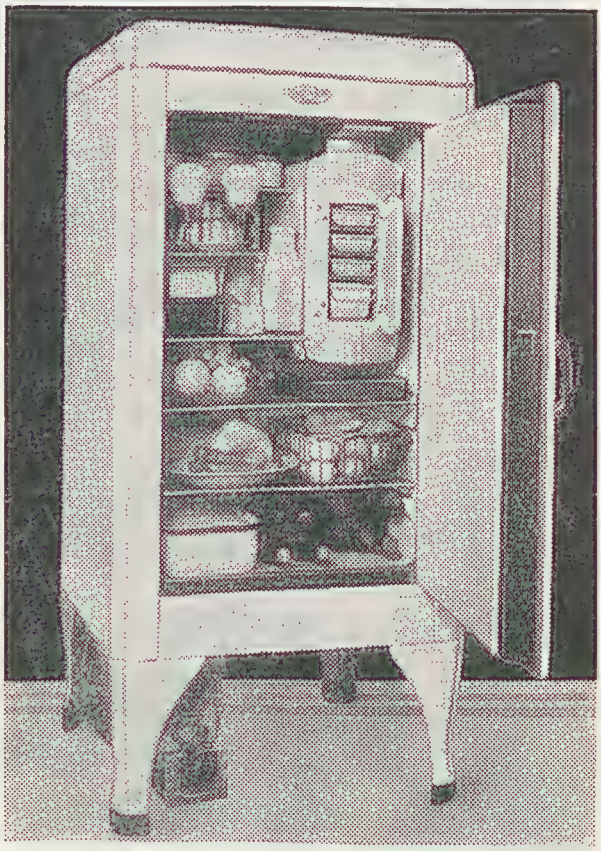

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significant, but the gestation periods for cows calving between April and September have been one day longer than for cows calving during the other six months of the year. Although the birth weights of calves vary with the length of the gestation, the calves have been lighter, by one pound in the case of Red Polls and 4 lb. in the case of Friesians, when born between April and September.

The variations in milk and butter-fat from month to month, as shown in Table 3, appear to be very irregular, but when further analysed, they agree with the variations in Table 2 in that cows calving between April and September, inclusive, produce more milk and butter-fat than do cows calving between October and March, inclusive, as summarized in Table 4. The differences in favour of the Friesian cows doing better when they calve between April and September are reduced because the first five lactations of the best cow, Victoria Lean Patch, at Werribee, were commenced early in the October-March period and only one lactation, and that when the cow was ten years old, was commenced in the April-September period.

As Werribee is an irrigation district where good succulent pasturage is usually abundant from October to May inclusive, it may seem strange that the cows calving before the flush pasture season do best. This is explained by the fact that yields can be maintained more satisfactorily by hand-feed during the earlier stages of the lactation period than in the later stages, whereas green pasture does maintain higher yields during the later stages of the lactation. High temperatures also have an adverse effect on high yields.

Farmers are advised to have most of their cows calving several weeks before the flush season begins, somewhere between April and July depending upon the district, and to partly hand-feed until the pastures can carry them adequately.

TABLE 3.—BIRTH WEIGHTS OF CALVES BORN, GESTATION PERIODS AND MATURE EQUIVALENT MILK AND BUTTER-FAT PRODUCTION OF COWS CALVING DURING DIFFERENT MONTHS OF THE YEAR—STATE RESEARCH FARM, WERRIBEE.

Month.	Birth Weights of Calves.		Gestation Periods.		Average Mature Equivalent Milk and Butter-fat Production.			
	Number.	Average Weight.	Number.	Average Duration.	Number of Cows.	Milk.	Test.	Butter-Fat.
		lb.		Days.		lb.	%	lb.
RED POLLS.								
January	54	75	40	287	40	8,560	4·44	378
February	53	75	48	286	41	8,510	4·23	363
March	64	81	45	288	38	8,670	4·26	371
April	52	74	44	286	34	9,000	4·37	389
May	35	78	30	288	22	8,610	4·42	375
June	35	77	24	289	24	9,200	4·30	393
July	50	73	39	286	31	9,170	4·25	389
August	55	74	46	285	39	9,130	4·50	404
September	62	76	48	287	46	8,810	4·38	376
October	95	74	67	287	53	8,540	4·44	374
November	59	74	48	287	37	8,320	4·45	365
December	59	77	45	284	50	8,640	4·36	372
Average	..	75	..	287	..	8,740	4·37	378
FRIESIANS.								
January	17	88	14	282	8	13,180	3·51	460
February	20	90	19	282	12	12,880	3·62	464
March	11	88	10	284	6	12,560	3·29	415
April	5	84	5	287	6	13,610	3·63	494
May	8	83	6	277	7	14,950	3·40	508
June	13	84	8	286	14	12,960	3·63	472
July	20	86	18	282	12	12,250	3·78	456
August	18	82	17	283	14	14,200	3·38	478
September	11	86	13	283	10	14,560	3·47	504
October	23	86	21	281	18	14,390	3·42	487
November	20	86	14	281	15	14,090	3·59	506
December	24	90	21	284	18	13,260	3·70	491
Average	..	86	..	282	..	13,600	3·55	480

TABLE 4.—THE AVERAGE PRODUCTION OF RED POLL AND FRIESIAN COWS CALVING BETWEEN OCTOBER AND MARCH, INCLUSIVE, AND BETWEEN APRIL AND SEPTEMBER, INCLUSIVE—STATE RESEARCH FARM, WERRIBEE.

Period of Calving.	Average Mature Equivalent Production since September, 1928.				Average Actual Milk Yields since September, 1925.	
	Number of Cows.	Milk.	Test.	Butter-fat.	Number of Cows.	Milk.
		lb.	%	lb.		lb.
RED POLLS.						
October–March	259	8,540	4·36	371	331	7,090
April–September	196	8,990	4·37	388	255	7,592
FRIESIANS.						
October–March	77	13,360	3·52	470	77	11,663
April–September	63	13,755	3·55	485	66	13,106

TABLE 5.—THE AVERAGE MATURE EQUIVALENT MILK AND BUTTER-FAT PRODUCTION OF COWS FOLLOWING DRY PERIODS OF VARIOUS LENGTHS OF TIME—STATE RESEARCH FARM, WERRIBEE.

Length of Dry Period.	Number of Cows.	Average Mature Equivalent Production.		
		Milk.	Test.	Butter-fat.
Days.		lb.	%	lb.
RED POLLS.				
0–9	Nil	..	..	..
10–19	4	8,500	4·18	352
20–29	10	7,820	4·46	344
30–39	21	8,720	4·34	369
40–49	38	9,180	4·27	389
50–59	46	8,870	4·34	382
60–69	48	8,690	4·34	377
70–79	30	8,890	4·30	378
80–89	16	8,260	4·47	369
90–99	20	8,810	4·27	375
100–109	13	8,620	4·54	384
110–119	4	8,030	4·07	328
120–129	6	7,740	4·19	323
130–290	11	9,080	4·40	395
FRIESIANS.				
0–9	2	11,820	3·85	455
10–19	Nil	..	..	..
20–29	8	13,850	3·51	485
30–39	6	13,940	3·60	491
40–49	10	13,950	3·48	483
50–59	9	13,630	3·49	475
60–69	9	13,170	3·63	476
70–79	8	14,150	3·45	491
80–89	8	13,800	3·64	504
90–99	4	13,850	3·63	499
100–109	3	15,000	3·62	538
110–119	Nil	..	..	..
120–129	2	11,800	3·53	415
130–213	4	11,400	3·67	417

Length of Dry Period.

The length of time that a cow should be rested between one lactation and another, in which to make a sufficient reserve of energy, proteins, and minerals in her body for the unborn calf, the function of calving, and the following lactation will depend upon how well the cow has been treated during the closing lactation and how well she is treated while dry.

At Werribee, the dry cows often receive poorer treatment as dry cows than the milkers, and further, the poorer producing cows often dry themselves off much earlier than the heavy producers, and thereby obtain any benefits that may accrue from a longer rest as well as tend to lower the average production of cows receiving longer rest periods. These two factors have a bearing on the length of dry period and influence the figures shown in Table 5 where the average mature equivalent milk and butter-fat production of cows receiving rests for different lengths of time (dry periods) are shown. A perusal of this table shows that the benefits of lengthy dry periods have been most disappointing, whereas, cows receiving very short dry periods have produced very close to average yields.

It is concluded that, under the conditions at the State Research Farm, for best performances, Friesian cows require at least three weeks rest between lactations and Red Poll cows at least six weeks. The usual practice is to commence drying the cows off eight weeks before they are due to re-calve, and this will allow them the requisite rest period.

Conclusions and Summary.

The article embraces studies concerning Red Poll and Friesian cattle under the conditions at the State Research Farm, Werribee.

The methods of rotational grazing and supplementary feeding are briefly outlined.

Pregnancy occurring at different stages during the 273 days' lactation period has very little effect on the subsequent yield. Cows can be mated to re-calve within the year without the yield for 273 days being reduced.

Cows calving between April and September have produced more milk and butter-fat than cows calving between October and March.

Friesian cows appear to require at least three weeks' rest or dry period between successive lactations, whereas for Red Polls six weeks seems desirable for average yields. Increasing the dry period appears unnecessary.

On a mature equivalent basis, Friesian cows have produced 13,600 lb. milk and 480 lb. butter-fat in 273 days. The average actual milk yield, including cows and heifers of all ages, has been 11,658 lb. The respective figures for Red Poll cows have been 8,470 lb. milk, 378 lb. butter-fat, and 7,324 lb. milk.

The average birth weight of Friesian calves has been 86 lb. and of Red Poll calves 75 lb.

The average gestation period for Friesian cows has been 282 days and for Red Poll cows 287 days.

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Cattle for Exhibition

(*Continued from page* 421.)

Be attentive to the requests of the judge and stewards. Whatever prize is awarded to one's exhibit, or if no prize at all is awarded, remember the saying that the judge is always right, and accept his decision in a good spirit. Later, when opportunity offers, discuss his decision with him, but do not argue with him before an audience. His task is usually a thankless one, and is undertaken as a duty.

Rugging.

When preparing stock for show it is necessary to rug them, the weight of the rug being determined by the weather conditions. All rugs should be wool-lined.

By T. H. Kneen, B.Agr.Sc., Special Horticultural Instructor

Orchard Notes.

IF there is any one month in the year which might be regarded as critical for the orchardist, surely it is September. Especially is this so for the grower of deciduous fruits, since those sorts which showed little or no bud movement in August—cherries, plums (European varieties), pears, quinces, and apples—are developing rapidly and will soon be brightening the landscape with their blossoms. Meanwhile, the majority of apricots, peaches, and nectarines are passing through the period of maximum blossom. Judging by previous observations of blossom-bud development, the crop prospects for deciduous fruits appear to be excellent, and the extent of blossoming will afford yet another opportunity to judge the potential crop. A further and more useful indication will be the proportion of the blossoms which "set" fruit. With self-fruitful sorts such as apricots, peaches, and nectarines, skilful pruning and cultural practices are the main factors in securing a good "set," but with self-unfruitful sorts, such as cherries, plums, apples, and to a lesser extent pears, the provision of proper pollenizers is an added essential factor in securing a good "set." Last month, suitable pollenizers for Japanese plums were discussed; now a few hints are given on suitable pollenizers for European plums.

The common cherry plum is, of course, the first of the European plums to reach full bloom and may be one or two weeks in advance of the earliest of the other varieties. Then follow Black Diamond, Angelina Burdett and Jefferson, followed in turn by the more truly mid-season varieties Grand Duke, President, Cole's Golden Gage, King Billy, Early Orleans, Prune Splendour, and Prune Sugar. In a still later group, but overlapping the mid-season varieties, come Coe's Golden Drop, Magnum Bonum, Pond's Seedling, and the prunes Robe de Sargent, d'Agen, and Giant. These groupings also indicate the sorts which are mutually good pollenizers. Cole's Golden Gage is a plum of exceptional merit for the export market, and the best pollenizers for this variety are Grand Duke, President, and Coe's Golden Drop. It is always better to supply more than one pollenizer, and all four of the preceding

varieties could be planted together with advantage. For Grand Duke, Jefferson and Cole's Golden Gage are suitable pollenizers, the former providing pollen for the earlier blossoms and the latter for the later blooms. Although Grand Duke is a good pollenizer for President, the latter is said to be unsuitable as a pollenizer for the former because of its unsatisfactory pollen. The prunes d'Agen and Robe de Sargent are mutually suitable pollenizers, as are the Splendour and Giant varieties.

During September the full extent of the damage being done to peach trees in the Goulburn Valley by the prolonged waterlogging of the soils will become apparent when affected trees fail to respond to the normal growth impulses. To guard against this, surface and tile drainage in some form or other is essential; in its absence little can be done to rectify the trouble.

Beurre Bosc pears in full bloom.

The buds of later sorts of deciduous fruits are developing rapidly, and there must be a minimum of delay in applying the routine protective sprays for fungous diseases which are likely to be more prevalent than in recent seasons.

Apple- and pear-growers should be sure that they are familiar with the "green tip" and "finger tip" stages of pear bud development, and also the "green tip" and "finger" (for certain varieties) stages of apples, since these are vital stages for the control of Black Spot. There is now available, free on application, a sheet displaying these main stages. Elsewhere in this *Journal* will be found a report on the Apple and Pear Demonstration Plots in which is included general recommendations for the control of Black Spot.

Citrus-growers in many areas are experiencing difficulty with fungal fruit spots such as Septoria and Anthracnose, particularly where autumn sprays have been neglected. To prevent the spread of these diseases, growers would be well advised to apply immediately a spray of 3:3:50 Bordeaux mixture combined with half a gallon of white oil emulsion. In the case of Valencias this must be done as soon as possible to enable the fruit to clean up before harvesting.

For the control of Brown Rot of cherries a spray of Bordeaux mixture 6:4:40 or lime sulphur, 2 gallons in 80, at the "green tip" stage should be followed by a 1 in 80 lime sulphur spray when the fruit is quarter grown. For peaches and apricots further treatment following the "pink bud" Bordeaux mixture spray already given will be with the dry-mix sulphur and lime in October, and will be mentioned again in these columns. To minimize infection at blossom time the removal and destruction of all mummies is essential, and ploughing should be completed before buds open, particular care being taken to turn over the strips of soil around the base of the tree.

The Flower Garden

By A. W. Jessep, M.Agr.Sc., B.Sc., Dip. Ed. Principal, School of Horticulture, Burnley

Garden Notes.

SEPTEMBER is a very busy time in the flower garden. The boisterous and wet weather of August has caused considerable delay, but it is hoped that this month will be more congenial and so enable routine work to be brought up to date. Evergreen trees and shrubs should be planted now. Care must be taken to see that they are given suitable position and soil. Rhododendron, azalea, camellia, Japanese maple, hydrangea, and kalmia are all shade-loving plants, whereas rose, cotoneaster, hibiscus, lantana, &c., require warm open positions.

The rock garden should have a general clean up; replant where necessary and remove any

excess growth. Cut back flowering plums and peaches when they finish flowering in order to produce long growths on which next year's flowers will develop. The apple flowers on old wood; therefore prune lightly, if at all.

With the approach of spring, the lawns are commencing to grow and will need attention. If buffalo or couch grass feels spongy, a top-dressing of soil should be given. Apply it at the rate of 1 cubic yard or dray-load per 100 square yards, but a slightly heavier dressing will not injure the lawn.

Sowings of any of the following seeds may be made now:—Ageratum, antirrhinum, aster, larkspur, delphinium, gaillardia, petunia, phlox, and salvia.

Antirrhinums (snapdragons) are very hardy and among the most useful annuals in the garden. With judicious planting, it is possible to have them flowering throughout the whole year, as they will withstand both winter frosts and summer conditions. They will grow in most soils, except cold, wet ones, and in summer require only a limited amount of moisture. They produce a wide range of colours, including practically all but the elusive blues.

There are three types of antirrhinum classified according to the height to which they grow—

1. The *Majus grandiflorum* or tall varieties, which produce flower spikes up to 3 feet in height, e.g., Rose Queen—a light rose pink.

Antirrhinums.

2. *Nanum grandiflorum* or medium-sized varieties which grow to a height of about 18 inches, e.g., Pink Perfection—a light pink.

3. Dwarf or Tom Thumb varieties which are used for bedding or bordering purposes, and which reach a height of only 9 to 12 inches, e.g., Brilliant Rose—a popular rose shade.

There are many beautiful varieties of each type, and some are sold under their appropriate colour names.

Sow the seed in light sand, and, if doing so in hot weather, cover during the hottest part of the day with a canvas. After the seed has germinated, gradually leave off the cover so that the seedlings may harden off before transplanting.

If winter blooms are required, sow the seed in early January and transplant in early March; for spring flowering, sow in early April and transplant the seedlings in May; for autumn flowers, sow the seed in August or September and transplant seedlings when large enough.

Treatment.—After transplanting, when the plants are well established, pinch out the centre to encourage the formation of a bushy habit. This increases the number of flower spikes and adds to the charm of the plant. Antirrhinums intended to produce winter flowers should be grown in a light, well-drained soil; they will not thrive in wet, badly-drained land. Even in summer, it is better to underwater them than overwater them.

The antirrhinum suffers from two serious fungus diseases, viz.:—

Rust.—This is a very serious one, and no effective control measure has been found for it. Fortunately, plant improvers have been successful in obtaining rust-resistant varieties, and in future these will be the popular strains grown.

Wilt.—This usually occurs when the plants are reaching the flowering stage. It is probably caused by the fungus known as *Phytophthora.* The wilted plants should be burned and the remainder given a dressing of Chestnut compound. Wet conditions appear to assist this disease; hence the necessity for growing antirrhinum in open, well-drained soils.

Vegetables.

In the vegetable garden at present the weeds are making more growth than the vegetables themselves, so use the Dutch

(*Continued on page 452*

Codling Moth and Black Spot

(*continued from page* 426)

first brood in November and early December. Consequently, oil was used following the application of the second cover spray.

In order to increase the efficiency of this schedule it was decided, in 1938, to include early in the season a limited number of combination sprays of arsenate of lead and white oil emulsion, these to be followed by oil alone. In practice, under the conditions of 1938, this meant that the first and second cover sprays were combination sprays. Previously the Department hesitated to advocate the use of combination sprays in view of the arsenical residue problem. However, the restriction of these sprays to the early part of the season, say November, and the sparing use of a casein spreader (as distinct from a calcium caseinate spreader) with the combination spray, thus producing a less tenacious deposit, have kept the residue within practicable limits. At Harcourt the residue was actually within the tolerance allowed by law, but at other centres it was higher as a result of the use of combination sprays during December.

This type of schedule has proved exceedingly satisfactory in the inland districts, and in Table I. is referred to as Schedule "C." The early combination sprays make it possible to secure good control of the first brood, and so lay a sound foundation for the later oil sprays. The combination spray is not necessarily more effective than a carefully-timed application of white oil alone, but from the point of view of district usage it is a more useful spray to recommend. There is no doubt that the success of white oil alone as a control for codling moth has been made possible by the correct "timing" of each application. The use of white oil on the Cleopatra variety, however, continues to be a risky proposition, although considerable quantities are used in the Quantong district. The injury caused by oil to this variety takes the form of a stain which may not become very apparent until after the fruit has been packed. Growers should continue to exercise caution unless their own experience indicates that it is safe to use oil on the Cleopatra variety.

TABLE II.—CODLING MOTH INFECTION, 1938-39.

Pear Plots.

District.	Orchard.	Variety.	Schedule.	Number of Trees.	Average Yield of Fruits Per Tree.	Number of Infected Fruits Per Tree.	Infection Due to Codling Moth.
							%
Lancaster	W. Young	W.B.C. ..	C	208	268	1·6	0·6
Ardmona	V. R. McNab ..	,, ..	C	106	777	51·0	6·5
Shepparton	A. W. Fairley ..	Packham ..	A	96	786	42·0	5·5
,, ...	W. Mulconry ..	W.B.C. ..	A	182	457	10·2	2·2
,, ...	,, ..	,, ..	C	140	384	2·1	0·5
Bamawm	J. Sinclair ..	Packham ..	C	40	578	43·0	7·5
,, ...	,, ..	Josephine ..	C	37	590	43·0	7·3
,, ...	,, ..	W. Nelis ..	C	44	438	8·0	1·7
,, ...	,, ..	Bosc ..	C	57	568	41·0	7·3
,, ...	,, ..	W.B.C. ..	C	66	613	74·0	12·1
East Burwood ..	V. Fankhauser ..	W. Nelis ..	A	96	413	3·4	0·8
,, ...	,, ..	Packham ..	A	240	434	3·6	0·8
Croydon	D. Lipscombe ..	,, ..	A	60	272	6·2	2·2
Doncaster	E. Thiele ..	,, ..	A	100	206	2·8	1·4
Tyabb	F. Renouf ..	,, ..	A	120	362	2·5	0·7

In the southern districts, including in particular the Metropolitan, Mornington Peninsula, and Geelong areas, oil has been used less extensively than in the northern inland districts. Except in the Metropolitan area little distinction can be drawn between the arsenate of lead and white oil schedules from a control point of view. The results obtained with arsenate of lead have been reasonably satisfactory and consequently the tendency has been to restrict oil to the last three or four sprays. A very important factor which has influenced the use of oil in these localities has been the injurious effects resulting, in certain cases, with the use of white oil on the Jonathan variety, which is the main variety in these districts. On the plots this has been manifested by the appearance in cool store of a disorder known as lenticel blotch, similar in appearance to Jonathan spot. This occurred in 1937 with Jonathan apples from Croydon, and in 1938 with the same variety from Panton Hill. In the first case 20 per cent. of the fruit was affected, and in the latter 50 per cent. At Wantirna, in 1938-39, a similar injury was observed in the field. Rome Beauty is also a variety somewhat susceptible to this type of oil injury. It is likely that trees suffering from water shortage are more prone to lenticel blotch, and it is perhaps significant that oil has been used freely without extensive injury in irrigation districts such as Harcourt and Quantong.

It is believed that the strength and number of applications of white oil are important factors. Consequently, it has been necessary to adopt a conservative attitude in regard to the use of oil in southern districts. Nevertheless, it is believed that more extensive use of oil in the metropolitan area would be advantageous from a control point of view, and therefore provision has been made in next season's work for the demonstration of schedules in which the strength and number of oil sprays will be varied. In the southern districts the plots have been concerned mainly with the Jonathan variety, so that it is difficult to say with certainty what would be the reaction of other varieties to the use of oil. There is no doubt that a schedule of the type used in the inland district would be distinctly advantageous for varieties such as Granny Smith.

The southern plots which have supplied the least satisfactory information have been those at Wantirna and Croydon. The poor results obtained in 1937-38 were due to imperfections in timing, spraying, and the large initial population. In the 1938-39 season these plots again presented difficulties, but it was of interest to record the marked superiority of the oil schedules, particularly the "C" schedule at Croydon in this season (see Table I.). The poor results obtained for codling moth control in Granny Smith at Croydon call for comment. At this centre arsenate of lead only was used throughout the season, and the results were the worst ever experienced on the plots. No doubt, the rough bark on these aged trees provided a large initial population, and the large clusters of fruit were a factor in reducing the efficiency of the spray. Judging by the results obtained with Jonathans it seems certain that a much higher degree of control in Granny Smiths would have been attained at Croydon had an oil schedule been used.

The main objection raised by growers to the use of oil is its cost and it is true that the cost of a spray mixture is considerably increased by the inclusion of white oil in the programme. Supposing that it is used at a strength of 1:60 then the type of schedule favoured, say at Harcourt, would more than double the cost of materials compared with a programme of arsenate of lead only. Similarly, the type of oil schedule favoured in southern districts, such as the Mornington Peninsula, would be 40 per cent. to 50 per cent. more costly than arsenate of lead only.

As a result of experience on the demonstration plots it is becoming increasingly apparent that it is unnecessary to use white oil as strong as 1:60 and that it can be reduced safely to 1:80 when used alone and possibly to 1:100 when combined with arsenate of lead. It is therefore significant to note that in the above cases the increased cost of materials would be in the region of 60 per cent. and 20 per cent. respectively.

The advantages of white oil must not be overlooked. In a district such as Harcourt where it is used extensively and successfully against codling moth, the control of two other important pests, red spider and San José scale, has been greatly simplified, and wherever the white oil schedule is used as recommended for inland districts very little is to be seen of these pests. Where the white oil schedule has not

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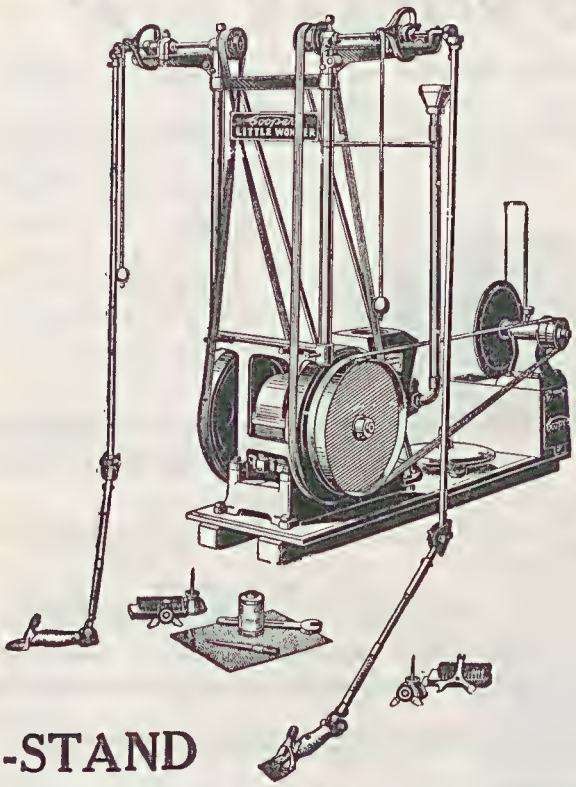

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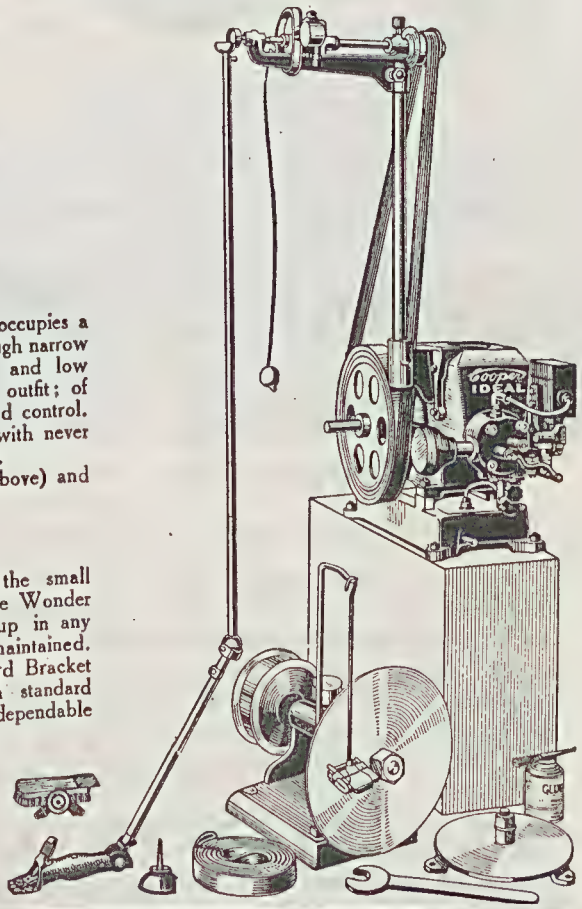

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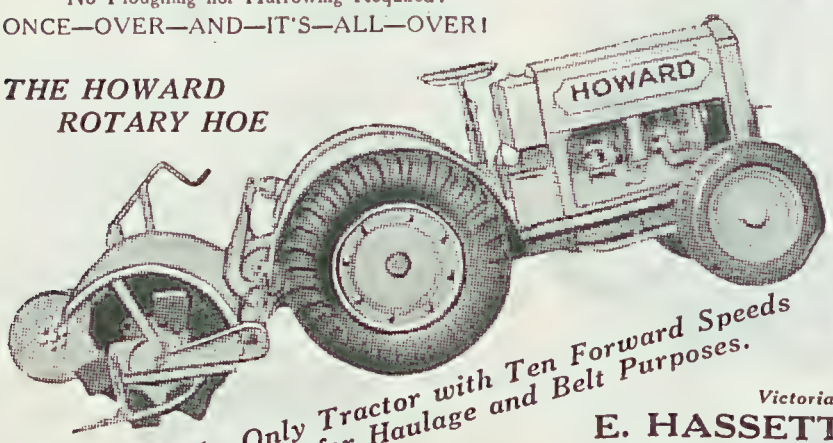

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been used it is necessary to reduce the initial infestation by the normal winter control measures. In the case of San José scale these can be followed in late spring by white oil, 1:60, this being applied also for the control of codling moth. This practice in the Harcourt district has enabled growers to dispense with the winter spray in the following years. For red spider, an application of white oil 1:60 with the "green tip" Bordeaux mixture, where Bordeaux mixture only is used to control black spot, is a valuable alternative to the normal winter spray and is widely used in the Harcourt district. Thereafter, the normal codling moth programme will suffice to keep red spider in check.

In districts where oil is used less extensively its use appears to be justified if only for the advantage it has in producing fruit free from arsenical residue.

Pear Plots.

Because of the extremely favorable conditions it presents for codling moth activity, the Goulburn Valley is an outstanding centre. In fact, it is the only important pear-growing area in which codling moth is at all troublesome. The experience on the demonstration plots even in this locality has been that arsenate of lead will give satisfactory control of codling moth provided certain other factors are given proper consideration. The first of these is that, because of the greater relative superiority on pear trees, bag bandages are to be preferred to chemical bands. The second factor is that the calyx spraying must be heavy enough to ensure 100 per cent. of the calyces being saturated. To do this the grower must either increase the quantity of spray applied or increase the efficiency of the application. A method which is much favoured in the Goulburn Valley is to apply the calyx spray with a long rod such as that illustrated in this report. Correct "timing" of cover sprays is, of course, an additional fundamental to success.

This policy has proved quite successful in the Shepparton district, as, for example, at the orchards of Messrs. A. W. Fairley and W. Mulconry at Shepparton East. At the same time it is recognized that the inclusion of white oil, particularly in combination with arsenate of lead, will greatly increase the efficiency of the spray schedule, but it must be emphasized that the fundamental factors previously mentioned must be given proper attention, otherwise growers can not obtain the best results.

The investigations being carried out at Ardmona in the development of a combination spray schedule for W.B.C. pears intended for the cannery should be closely watched by all growers. At Shepparton a portion of the W.B.C. demonstration plot was sprayed throughout the season with a combination spray of arsenate of lead and white oil (1:80). The results confirmed expectations, but, owing to the low initial population resulting from close attention given to bag bandages and calyx spraying in previous seasons, it was possible to effect only a slight improvement on those obtained with arsenate of lead.

Applying the late calyx spray to pears with a long rod.

For export pears in the Goulburn Valley, growers have the alternative of washing the fruit after a schedule of arsenate of lead sprays or developing a schedule such as has been used on the apples in the inland districts, i.e., early combination sprays followed by white oil (1:80). At the present the latter type of schedule appears to be the only possible alternative to arsenate of lead so that trials with this schedule in the Goulburn Valley next season will be of special interest.

The results obtained at Bamawm and Ardmona have been the least satisfactory and there has actually been a steady increase in

infection during the three seasons. But the cause of this increase is clearly a management problem as both properties have insufficient equipment for their size. This has affected in particular the efficiency of the calyx spray. At Bamawm, the use of chemical bands instead of bag bands has been an important contributory factor. In 1936-37 the results obtained at Lancaster were disappointing due to inefficient spraying and the neglected condition of the orchard. However, thorough sanitation methods, particularly bag bandaging with the associated cleaning up process, and improvements in the spraying equipment resulted in a very low degree of codling moth infection during the 1938-39 season.

In the Goulburn Valley, more than anywhere else, prompt and efficient sprayings are essential because of the short egg-incubation period and the interruptions brought about by irrigation. Some growers have recognized this by installing stationary central spray plants, and there is no question that in the future the larger orchards will be so equipped. Other growers have attempted to meet the conditions by using larger portable outfits of 300 gallons capacity, but these are handicapped by the same conditions which cause breakdowns with the smaller outfits.

Chemical Bands.

Corrugated cardboard, oil impregnated Beta-naphthol chemical bandages have been used on demonstration plots for the third year as a supplementary control for codling moth of apples, and on the whole have proved very satisfactory. From records obtained from the first two seasons, the average percentage of larvae which transformed to adult moths and emerged was less than 2 per cent. The bands supplied to growers can be relied upon to kill at least 90 per cent. of the grubs which enter them, the remainder being destroyed when the bands are removed. The effectiveness of the various brands of chemical bands used on demonstration plots and by other growers is being closely watched by officers of the Department.

During the past two seasons one proprietary brand and one home-made product were found to be defective. The trouble was considered to be due to the use of oil of too light a grade for the manufacture of the bands, but it is thought that incorrect technique in manufacture also played a part. The particular proprietary brand was well up to standard in 1936-37, but changes in manufacture resulted in a defective band the following season, when 40 to 50 per cent. of the larvae emerged as moths. An improvement in this band was effected last season but it is still not considered to be satisfactory.

No other defective bands have been detected and manufacturers would be ill-advised to make any radical changes in methods of manufacture unless they are certain that, as the result of field trials, such changes will improve the toxicity of the bands. In conjunction with the Agricultural Research Chemist and the Entomologist it is proposed to continue investigations into the manufacture, composition, and effectiveness of chemical bands next season.

In order to obtain the maximum benefit from chemical bands, or bandages of any type, it is essential to eliminate, as far as possible, any alternative cover for larvae. It is also essential to see that the bands fit snugly to the butt of the tree because as many as 50 per cent of the grubs may be situated between the band and the bark of the butt and in this situation there is more likelihood of larvae transforming to adult moths. In one actual case this season where more than 20 per cent. of the larvae emerged from the bands, 99 per cent. of these emerged from this position. Loose bark between the band and the butt of the tree will also reduce efficiency because it is essential, for best results that the cocoon should be in close contact with the band.

Spraying pear trees with a 300 gallon outfit.

Black Spot.

Conditions during the past three seasons have not been sufficiently favorable for the development of severe black spot infection, and little difficulty has been experienced in applying the routine protective sprays for controlling this disease.

In 1936-37 the only plots to record an appreciable black spot infection were Drouin, Stanley, and Wallington, the two former districts having an average rainfall of over 40 inches. The poorest result was at Drouin where the infection in Delicious was 9.1 per cent., the schedule used being the usual Bordeaux mixture at the "green-tip" stage followed by lime sulphur. The schedule now recommended for this variety consists of Bordeaux mixture at the "green-tip" and "finger" stages. The failure to completely spray the tips of high leaders was the main source of trouble at Drouin. On all other plots, the infection recorded that season was not greater than 0.5 per cent.

Heavy rains in the middle of October, 1937, accompanied by mild temperature conditions, were favorable for infection and in some centres the application of the post-petal fall sprays was interrupted. Every plot except those in the Goulburn Valley and at Strathfieldsaye showed a small but appreciable amount of infection, particularly where this interruption occurred, e.g., at Panton Hill and Burwood East, where the infections, where trees were not sprayed before the rain, were 5.3 per cent. and 28.4 per cent. respectively. Fortunately, the conditions subsequent to this were too dry for the development of summer spot.

It was necessary in 1937 to reduce the strengths of the lime sulphur sprays because there had been a gradual increase in the polysulphide or active content of the lime-sulphur concentrates. As a result of this action, much less injury has been reported following applications of lime sulphur. Further action was taken in 1938 by fixing maximum and minimum polysulphide and total sulphur contents in order to ensure that growers were supplied with a material of uniform composition.

In 1938-39, one of the driest seasons on record, there was practically no spot infection. Thus it can be seen that the black spot recommendations have not been subject to the same critical conditions as those for codling moth, and it is therefore not practicable to suggest many improvements or modifications in the present schedules. Generally speaking, more use is being made, particularly in the inland districts, of the Bordeaux mixture schedule for Bordeaux tolerant varieties such as Cleopatra, Granny Smith, Delicious, Rome Beauty, and Dunn's (the latter in northern districts only).

There has been a tendency to reduce the "finger-tip" Bordeaux mixture spray to half strength for all varieties of pears, but more particularly for the Packham and Winter Nelis varieties in order to reduce russet. The russeting of Jonathan apples is a problem which continues to engage attention and each season efforts have been made to demonstrate further modifications of the schedules, but the generally dry conditions have prevented any positive results from being obtained.

Many growers are reluctant to use Bordeaux mixture on the Jonathan variety at the "green-tip" stage and it should be emphasized that the correct stage is a slightly earlier one than that usually recommended for other varieties. Russet will be reduced by spraying at this earlier stage.

RECOMMENDATIONS FOR 1939-40.

Codling Moth.

Those growers who continue to have difficulty in controlling codling moth would be well advised to get in touch with the Orchard Supervisor for their district who, with the experience during the past three seasons, is in a position to detect weaknesses in the methods so far adopted. Growers could do a great deal to assist the Department in remedying faults by keeping accurate records of the sprays applied during the season. Such records should include the following information:—1. Actual dates on which sprays are applied; 2. Quantity of spray, expressed in number of vats, applied on each day of spraying; 3. A record of the actual area of the orchard sprayed on each day; and 4. A record of the kind and strength of spray mixture used.

With such records it becomes easier to determine whether faulty timing of sprays or insufficient spray are factors in the poor results. To the above records growers who use bag bandages should add a record of the dates on which the bandages are examined.

The best results cannot be obtained unless the sprays are well "timed" to deal with the

A harvesting scene on one of the manurial plots.

peaks of activity of each brood of moths and growers are therefore strongly advised to take full advantage of the spray advice service in each district. Growers who use white oil as an ovicide for controlling codling moth must use these services, or maintain their own lures, if they are to expect satisfactory results with this material.

The most important supplementary control measure which should be practised generally is bandaging the trees to trap larvae after they have completed the feeding period in the fruit. *For apples,* chemical bandages are recommended in all districts where codling moth is at all troublesome, but in the North-east, Gippsland, Diamond Creek-Hurstbridge, and Portland districts their use may be regarded as optional. Bag bandages are to be preferred where birds are troublesome. *For pears* in the Goulburn Valley, bag bandages are recommended in preference to chemical bands, but in all other districts the use of bandages of any sort may be regarded as optional—if bandages are thought desirable in these other districts chemical bands will suffice. Bandages are not considered necessary for pears in the North-eastern, Gippsland, Diamond Creek-Hurstbridge, and Portland districts.

Bands should be applied to trees no later than the last week in November and should be removed and destroyed in June or July of the following year. Bands should be in position a fortnight earlier in the Goulburn Valley.

The schedules recommended for each district are constantly being modified to suit local conditions and it is therefore impossible at this stage to lay down rigid recommendations. The following should prove a useful guide to growers in each of the main districts :—

Goulburn Valley.

Arsenate of lead 6 lb. of paste or 3 lb. of powder in 100 gallons of water will prove satisfactory in the Goulburn Valley provided proper attention is given to "timing" the sprays, bag bandaging, and the associated "cleaning-up" of the trees before putting the bands in position, and heavy calyx spraying. The majority of growers fail to saturate every calyx and this is surprising, because it is an easy task to examine the trees after they have been sprayed to see how effectively the spray has been applied. The use of long rods and more spray per tree will greatly improve the application.

For W.B.C. pears a schedule of combination sprays of arsenate of lead and white oil is being developed at Ardmona by the Entomologist, but will not be the subject of a general recommendation until the most economical mixture has been determined. Meanwhile the most promising schedules are being demonstrated on the plots for comparison with the present standard schedule of "timed" applications of arsenate of lead. For export varieties a schedule incorporating white oil sprays combined with arsenate of lead early in the season and alone later in the season will be the subject of trials next year. This follows satisfactory results obtained with a similar schedule for apples in the inland districts.

According to seasonal conditions four to five sprays for W.B.C. pears and five to seven for export varieties may be required.

Bendigo, Harcourt, Quantong, Pomonal, and Amphitheatre.

The schedule recommended for apples in the Bendigo, Harcourt, Quantong, Pomonal, and Amphitheatre districts is one in which an arsenate of lead calyx spray (paste 6:100) would normally be followed by a maximum of two combination lead arsenate-white oil sprays, the latter to be applied not later than the end of November, and to be followed in turn by a series of white oil sprays until harvest time. The strength of oil recommended is 1¼ gallons in 100 gallons of water.

The Department cannot recommend the use of white oil for the Cleopatra variety and growers must be guided by their own experience with this variety. In seasons when applications of lime-sulphur for the control of black spot are required after petal fall it should be remembered that oil cannot be used with safety within three weeks of a lime-sulphur application. For pears, growers may find it convenient to spray them in the same way as for apples, but arsenate of lead used throughout the season will give quite good results.

According to seasonal conditions seven to nine sprays will be required for apples and five to six for pears in these districts.

Metropolitan, Mornington Peninsula, and Geelong.

Two alternative schedules are recommended for apples in the Metropolitan, Mornington Peninsula, and Geelong districts. Provided proper attention is given to sanitation (principally the use of chemical bands), "timing" the sprays and thorough spraying, arsenate of lead will give satisfactory results. As fruit from such a schedule will require washing at harvest time the alternative schedule recommended is one in which three or four white oil sprays, 1¼ : 100, will replace the usual arsenate of lead sprays and this will mean in practice the sprays usually applied in January, February, and March.

For pears, arsenate of lead only may be relied upon for controlling modling moth, or, if desired, they may receive the alternative oil schedule as for apples.

For these districts a total of six to seven sprays may be required for apples and five to six for pears according to seasonal conditions.

North-east (Stanley), Gippsland, Diamond Creek-Hurstbridge, and Portland.

For the Stanley, Gippsland, Diamond Creek-Hurstbridge, and Portland districts arsenate of lead only is recommended, but it is to be noted that if sprays are required during January, February, and March, as indicated by moth activity each season, the fruit will require washing or wiping to remove the excess arsenical residue. In some seasons there is only one brood active in Gippsland, Stanley, and Portland areas and growers will be advised when and if late-season sprays are required.

In these districts three to five sprays generally will suffice.

Spreaders.—For arsenate of lead sprays the addition of a limited amount (½ : 80) of lime-casein spreader, though adding nothing to the efficiency of the spray will reduce excessive blotchiness. For combination arsenate of lead-summer white oil sprays, it will be found an advantage to include 5 to 6 oz. of casein (not lime-casein) in each 100 gallons of spray mixture. If this is not done the grower will find that a tenacious residue will result.

For more complete details concerning the recommendations for 1939-40 growers should get in touch with the Department of Agriculture and secure instructional circulars on this subject.

Black Spot.

The time of application of black spot sprays is determined by reference to the stage of the developing buds on the trees. The treatment is preventive rather than curative and for this purpose the fungicidal properties of copper in the form of Bordeaux mixture and sulphur, as lime sulphur, are employed.

The application of the sprays at the correct stages is essential, both from the point of view of controlling the fungus and to minimize injury to foliage and fruit. Bordeaux mixture is the more efficient fungicide and is used wherever possible, but for apple varieties it is restricted to the earlier pre-blossom application except on certain varieties less liable to russet.

Apples.

The various stages of growth of apples at which sprays are applied are as follow:—

1. *Green Tip.*—This is recognized when the bud scales have separated from the majority of the fruit buds and the tips of the green folded leaves are just visible.

2. *Finger.*—The young green leaves have separated from the blossom buds which are beginning to separate in the cluster.

3. *5 to 10 per cent. blossom,* i.e., when this proportion of flowers has opened.

4. *Petal fall,* i.e., when the majority of the petals have fallen.

5. *Fourteen days after the petal fall* application.

Bordeaux mixture 6 : 4 : 40 is always applied at the "green-tip" stage and is then followed by a series of lime-sulphur sprays at stages 3,

4, and 5 above. The strengths of these sprays are in succession 2¾:100, 2:100, and 1¼:100. For varieties not liable to russet a second Bordeaux mixture spray 3:3:50 may be applied at the "finger" stage and the lime-sulphur sprays omitted. This latter schedule is not suitable for the Jonathan, London Pippin, Yates, Rokewood, and Gravenstein varieties.

Pears.

The various stages of growth of pears at which sprays are applied and the strength of such sprays are as follow:—

1. *Delayed and Green Tip.*—When the maximum number of fruit buds has brown scales or bracts separating and the tips of the green folded leaves are just visible. Apply Bordeaux mixture 6:4:40.

2. *Finger.*—When the green leaves are separated from the blossom buds which are beginning to separate in the cluster, but before white petals appear. Apply Bordeaux mixture 6:4:40.

3. *Late Calyx.*—About three weeks after the fruit has formed apply Bordeaux mixture 3:3:50.

The above schedule is suitable for the W.B.C. and Beurre Bosc varieties. Only one Bordeaux mixture (6:4:40) should be applied to Josephine and this should be at an early "green-tip" stage. This stage is slightly earlier than that described as the "delayed green tip" above. Any further Bordeaux sprays will russet this variety.

For Winter Nelis the application of the finger spray must be completed before any petals show pink, while the late calyx spray must not be applied within three weeks of petal fall. For clean-skinned varieties, such as Packhams, apply 1:1:50 Bordeaux mixture at the late calyx stage.

Control of Summer Spot.

If the above schedules are carefully adhered to, little trouble should be experienced with late or summer spot. If the late spot appears, 6 oz. each of bluestone and freshly-slaked lime should be included in each 100 gallons of lead arsenate or white oil spray. Where lead arsenate only is used for codling moth control, lime sulphur may be used at a strength of 1:100. If lead arsenate and lime sulphur are to be combined, add the lead arsenate plus ½ lb. calcium caseinate spreader to the diluted lime sulphur.

SPRAY ADVICE SERVICES.

When the demonstration plots were established in 1936 the usual method of spraying for the control of codling moth was to apply sprays at more or less regular intervals, to maintain an arsenate of lead cover throughout the season, without any reference to the activity of the moth. Generally speaking, those growers who applied the most spray at each application and sprayed most frequently were the ones who obtained the best results.

There is little utility in discussing in detail the schedules adopted by growers, since their basis was quite arbitrary and depended on each individual's interpretation of how to maintain a cover of arsenate of lead and his ideas about the most vital periods for spraying. It is certain, however, that many growers secured indifferent results and failed to get the best value from the materials and methods at their disposal. It is also certain that full advantage was not being taken of other methods of tackling the problem. For example, the use of lures for "timing" spray applications was recommended by the Department, but it was apparent that growers did not understand the method and it is readily admitted that the interpretation of lure records, though not beyond the capacity of any grower, requires some experience and judgment if they are to be used to the best advantage.

It was felt, therefore, that much could be done to secure an all-round improvement by introducing this method on an extensive scale. Rather than attempt to show the individual grower how to use lures, the Department adopted the policy of issuing spray advice based on the lure records provided by the plots. This method is considered the most reliable and care has been taken to ensure that the plots are distributed over each district in such a way as to secure the most reliable records.

Another reason for developing this system was that white oil was being used more extensively in the spray schedules in order to overcome the necessity for washing or wiping fruit sprayed with arsenate of lead. White oil is used as an ovicide, or egg-killing spray, and as such must be applied at periods when codling moth eggs are present in large numbers.

There are two important factors which affect the efficiency of a spray advice service. The first of these is the speed with which events in the field are translated into appropriate

spray advice and delivered to the grower. The second is the capacity of the grower to take full advantage of such advice.

In the latter case, "timing" is by no means the only factor and thoroughness of spraying and sanitation are extremely important in the scheme of codling moth control. Secondly, many growers, through insufficient or inefficient equipment cannot complete their sprays within a reasonable period. It is desirable to be able to complete a single spray in four or five days or a week at the outside in districts where codling moth is a problem. The solution to this is not necessarily to purchase additional equipment, since a great deal may be done by more strenuous efforts in other directions, such as careful attention to sanitation, more thorough spraying, a more expensive spray mixture, &c. If these methods still fail to give the desired results, then the provision of more efficient equipment becomes necessary.

The Department for its part is constantly improving the spray advice services and in general it is practicable to give about a week in which to complete a spray. Such a service must be developed very carefully if it is to be relied upon by growers, who in their turn must develop a proper appreciation of factors other than "timing."

Undoubtedly, the most effective method of spray advice is the circular system which has been developed in a number of districts. This system is seen at its best in the Goulburn Valley where the Shepparton Fruitgrowers' Advisory Committee and the Ardmona and Kyabram canneries, after consultation with the orchard supervisors, issue a circular giving the time of completion of spray, the nature of the spray, and general advice in regard to the control of other pests and the conduct of other routine work such as irrigation. The tremendous advantage of this system is that every grower receives the circular.

This type of service has been extended to a number of other districts and, in the metropolitan areas, the Southern Victoria Pear Packing Company issues similar circulars in co-operation with the two orchard supervisors in these districts. At Red Hill the district Agricultural and Horticultural Society has co-operated with the orchard supervisor in the issue of circulars that have been prepared by the Department. In four other localities, Quantong, Pomonal, Amphitheatre, and Bamawm, circulars have been prepared and issued by the orchard supervisors to the majority of growers in each district. The number of circulars issued has been limited, but next season it is hoped to extend this service to more growers.

In the Bendigo-Harcourt and Geelong districts the main method at present practised is to insert notices in the daily newspapers which circulate widely in these localities, i.e., *Bendigo Advertiser, Castlemaine Mail,* and *Geelong Advertiser.*

A third method that is widely used is to maintain at a number of strategic points in each district a notice board on which is displayed a chart showing, in the form of a graph, the number of moths trapped each week in the lures on the demonstration plots. In addition, appropriate spray advice is posted up with the chart. The chart is useful in making clear the "peaks" which occur during the periods of activity of each brood of moths. In some districts this is the main method of issuing spray advice, while in other districts it supplements the circulars or newspaper notices.

A fourth method which has been given much attention is the broadcasting of spray forecasts from the central and local wireless stations. So far the latter have proved most useful for this purpose, as, for example, 3SR, Shepparton, from which forecasts for Bamawm, Kyabram, and Shepparton are issued. In the case of central stations, however, the difficulty has been to collect and broadcast the advice from all districts without introducing too much lag between the decision to spray and the receipt of the advice by the growers. Unless advice can be broadcast as soon as possible after making the decision to spray, then the main advantage of wireless forecasts is lost. The ideal system would be one in which the advice is broadcast as soon as the decision to spray has been made, and repeated at frequent intervals for two or three days, by which time the grower would receive further notification by circular or public notice.

There is no doubt that in the future wireless broadcasts will form a very useful supplement to the local spray advice systems and should prove useful for reaching outlying districts quickly.

Besides the foregoing methods a number of schools in certain scattered districts are visited for the purpose of contacting orchardists' children who convey the advice to their homes. Owing to the school vacation this method is

useful only in the early part of the season. In addition to these forms of advisory service, field days and lectures have been held in every district. These have proved of value to growers by promoting discussions on schedules, fertilizer work, &c. Since 1937, 40 such meetings have been held at which the average attendance has been 36.

Acknowledgments.

It is desired to acknowledge the willing co-operation of orchardists who have provided portions of their orchards for plots and have shown a keen interest in the work, and also the various fruitgrowers' organizations for the splendid work done in issuing the spray advice circulars to their members.

Orchard and Garden Notes

(Continued from page 442).

hoe freely between the rows. A sunny morning, when there is a slight breeze blowing, is the best time to attack the weeds, as they will then wither and die during the course of the day. If the ground is thoroughly cleared of weeds during early spring, there is usually not much trouble with them until autumn, when a more troublesome variety often appears. The loosening of the surface benefits the growing plants by aerating and sweetening the soil.

Make further sowings of the following seeds:—Greenfeast peas, lettuce, spinach, turnip, and celery. In warmer districts small sowings of French and butter beans, tomatoes, cucumbers, pumpkins, and melons may be made.

The melon, cucumber, and pumpkin require much the same type of cultivation, although some of the melons will grow under drier conditions than will either cucumber or pumpkin. They are all susceptible to frost, and should not be planted out in the open till all chance of frosts has passed.

The citron or preserving melon is the hardiest variety and is very popular for jam-making. Melon jam is an Australian product, and, when flavoured with pineapple, passion fruit, or such like, is an excellent advertisement for Australian products.

The seeds may be sown an inch deep in groups of four to six, each group about 6 feet apart. When the plants have germinated, thin out each group, leaving only two or three strong plants.

If they are slow at setting melons, cut off the ends of the runners, as this encourages the melons to develop. They are ripe when the white portion resting on the ground commences to get green-coloured stripes through it. If carefully handled, the melon may be safely stored in a dry shed for months.

There are two main varieties grown. One is the red-seeded citron, which is round and large. It is the most popular variety for jam manufacture. The other is the green-seeded citron, which is usually more cylindrical in shape; it is not so popular, as it goes mashy when cooked.

The water melon is a dessert type which is very popular during summer. It is mostly dark-skinned, and, when ripe, the flesh is of an attractive pink colour. Those usually grown are Fordhook Early, Tom Watson, and Black Spanish.

NATIONAL MUSEUM OF VICTORIA

Butter Production and Export

The following tables show:—

(*a*) Factory production of butter and cheese in Victoria for the period July, 1938, to June, 1939, compared with the corresponding period of 1937–38.

(*b*) Quantities and percentages of various grades of bulk butter examined in Victoria for export during the month of July, 1939, in comparison with the corresponding month of 1938.

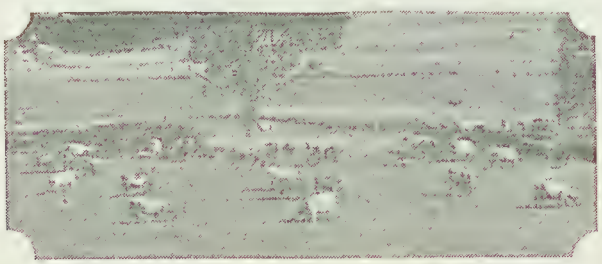
FACTORY PRODUCTION OF BUTTER AND CHEESE IN VICTORIA (QUANTITIES IN TONS).

Month.	Butter.		Cheese.	
	1938–39.	1937–38.	1938–39.	1937–38.
July to April	48,362	56,530	7,649	6,658
May	4,346*	2,496	511	295
June	3,789	1,983	552	259
Totals—12 Months	56,497	61,009	8,712	7,212

* Revised.

BULK BUTTER EXAMINED IN VICTORIA FOR EXPORT (QUANTITIES IN TONS).

Month.	1939-40. How Graded—				Total.	Month.	1938-39. How Graded—				Total.
	Ch.	1st.	2nd.	Pty.			Ch.	1st.	2nd.	Pty.	
July	582	833	136	7	1,558	July	40	53	25	1	119
Percentages ..	37·4	53·5	8·7	0·4	..	Percentages ..	33.6	44·5	21·0	0·9	..



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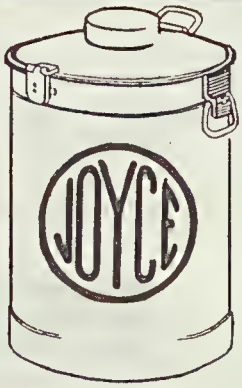

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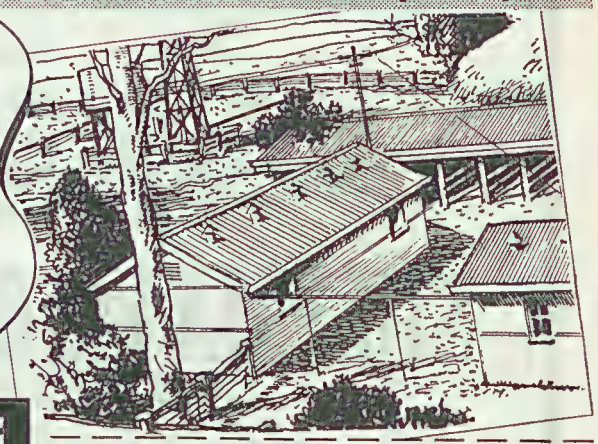

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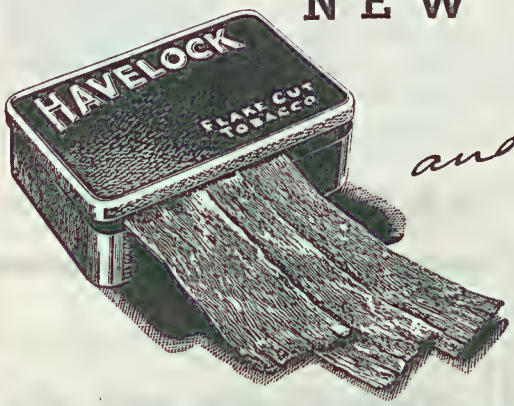

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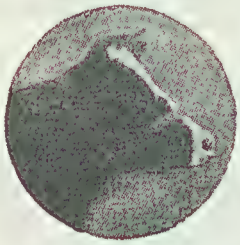
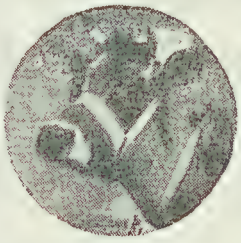


Stud Breeders' CARDS



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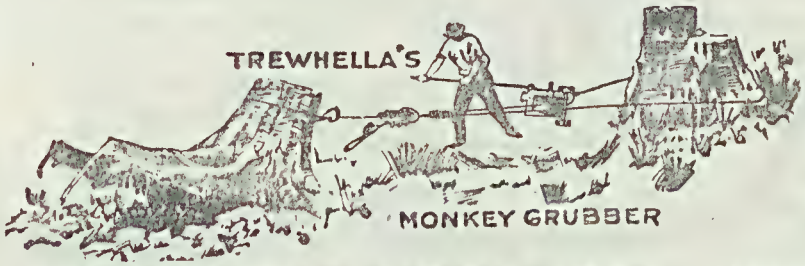

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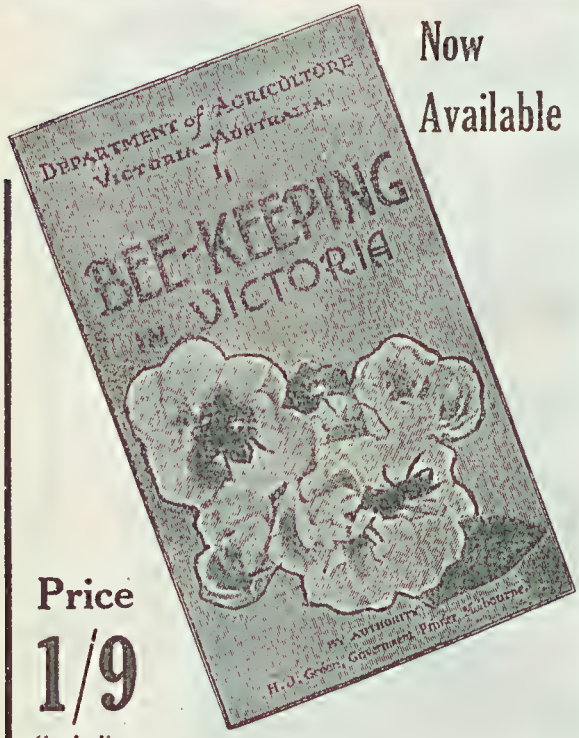

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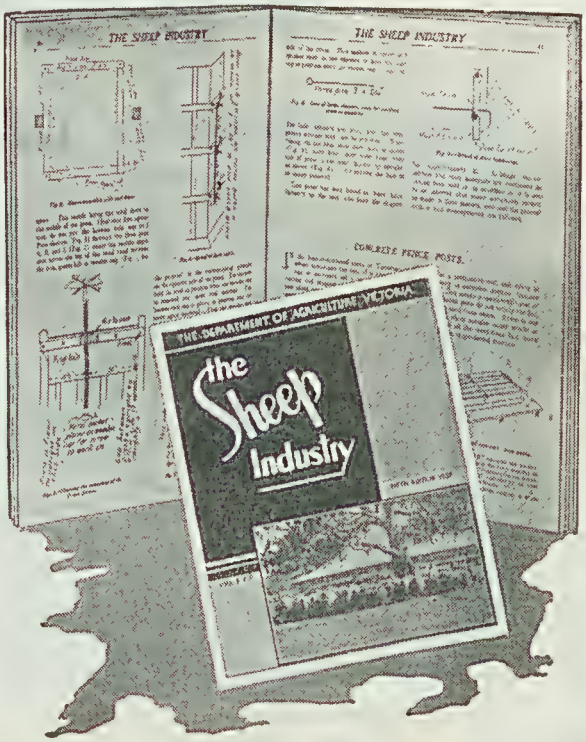
The Publication contains 108 pages of reading matter and many photographs

METHODS of countering the attack of the sheep blowfly are outlined in detail. Other chapters deal with the selection of ewes and rams, classing the clip, baling and pressing wool, and the raising of fat lambs. Plans and specifications for the construction of a sheep-dip, shearing sheds, drafting yards, self-feeders, and a home-made wool press are included.

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10 lb. of Choice Butter	15	0
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In order to ensure Christmas delivery Orders should be given as early as possible, but not later than the

31st October, 1939.

GIFTS of the best Victorian produce can be sent at any time through the Department of Agriculture and arrangements made for delivery to the address given without any further expense than the amounts stated below, which cover cost, freight, and delivery charges.

DURING 1938 the number of gifts ordered was 2,935.

ORDERS to forward any of these to any address should be accompanied by remittances and the date on which delivery is desired, *i.e.*, Christmas, Easter, &c. Orders should be addressed to the DIRECTOR OF AGRICULTURE, Treasury Gardens, MELBOURNE, C.2.

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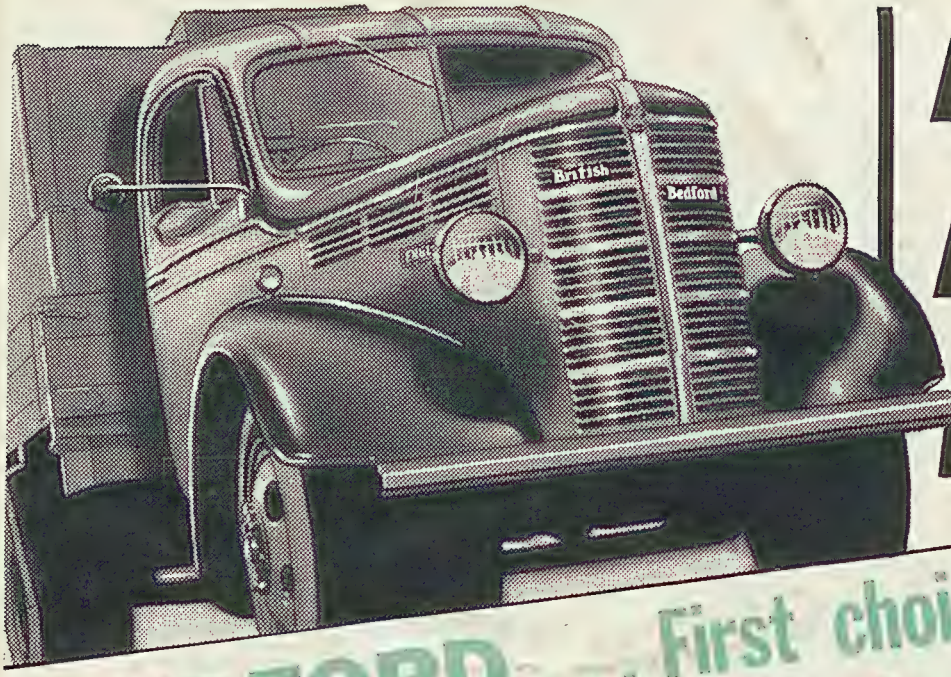

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Bedford has a specially engineered truck for capacities up to 4 tons . . . Look at the range . . .

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Chassis prices from £310.

3-4 TONS—In 111 inch and 157 inch Wheelbases, available in a complete range of body styles. Tipper models with either wood or steel body.
Chassis prices from £360.

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Diesels from £650.

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VICTORIA.

DEPARTMENT OF AGRICULTURE

VICTORIA, AUSTRALIA.

STANDARD HERD RECORDS

For Quarter Ending June, 1939

Supplement to the *Journal of Agriculture, Victoria*, September, 1939.

10242/39.

Standard Herd Records

For Quarter ended 30th June, 1939

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 657, of which 486 qualified for the certificate. The figure in brackets after the owner's name shows the number of entries.

The amount of butter-fat required for qualification varies with the age class to which the animal belongs, the standard being as follow:—

Junior 2-year old (under 2½ years at time of calving)	230 lb. butter-fat.
Senior 2-year old (between 2½ and 3 years at time of calving) ..	250 lb. butter-fat.
Junior 3-year old (between 3 and 3½ years at time of calving) ..	270 lb. butter-fat.
Senior 3-year old (between 3½ and 4 years at time of calving) ..	290 lb. butter-fat.
Junior 4-year old (between 4 and 4½ years at time of calving) ..	310 lb. butter-fat.
Senior 4-year old (between 4½ and 5 years at time of calving) ..	330 lb. butter-fat.
Mature cow 5 years and over	350 lb. butter-fat.

(Except where otherwise stated, the period of test was 273 days.)

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Alston, N. B., Romsey, Jersey (4).										
Castle Ellen	56734	2.9.38	16½	5,795	4·77	276·42	250	Sr. 2	..	.. Staghorn Madeira's Twylish
Rosyth Gay Bonnie ..	59331	16.8.38	21	5,465	5·68	310·37	290	Sr. 3	209, 262	.. Werribee Gaypiece
Rosyth Noble Duchess 3rd	Vol. 26	12.9.38	17	5,379	5·51	296·18	230	Jr. 2	..	.. Rosyth Jessie's Chief 5th
Wompini King's Bell ..	64956	12.9.38	16½	5,915	5·80	342·90	250	Sr. 2	261	.. Wompini Erl King
Anderson, I. R., Warburton, Jersey (1).										
Banyule Pert	56259	15.9.38	12	5381	5·47	294·47	250	Sr. 2	..	.. Oxford Beau's Pretty Oxford (Imp.)
Atkinson, W. K., Swan Hill, Dairy Shorthorn (19).										
Willow Park Comet 14th ..	D.S.H.B.	19.9.38	21½	9,779	3·92	383·74	310	Jr. 4	290, 381	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Camelia 20th..	D.S.H.B.	7.8.38	N.O.C.	9,077	3·70	336·10	230	Jr. 2	..	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Camelia 11th..	D.S.H.B.	16.8.38	N.O.C.	8,693	3·86	335·14	330	Sr. 4	253, 384	.. Willow Park Silvermine 4th
Willow Park Countess 14th	D.S.H.B.	5.9.38	11	9,269	3·57	331·10	330	Sr. 4	250, 317	.. Willow Park Silvermine 4th
Willow Park Countess 17th	D.S.H.B.	22.7.38	21	10,660	3·58	381·90	290	Sr. 3	321	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Countess 19th	D.S.H.B.	22.9.38	18	6,479	4·25	275·37	250	Sr. 2	..	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Damsel 5th ..	D.S.H.B.	10.9.38	5½	9,145	3·81	348·53	290	Sr. 3	243, 338	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Duchess 31st	D.S.H.B.	2.8.38	N.O.C.	9,248	3·65	337·60	250	Sr. 2	..	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Fairy 8th ..	D.S.H.B.	16.9.38	18½	9,077	3·52	319·55	350	Mature	279, 293	.. Willow Park Silvermine 4th
Willow Park Fairy 10th ..	D.S.H.B.	20.8.38	N.O.C.	9,474	3·43	325·11	270	Jr. 3	269	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Melba 22nd ..	D.S.H.B.	19.9.38	12½	10,835	3·76	407·56	310	Jr. 4	328, 363	.. Willow Park Lustre 3rd
Willow Park Melba 23rd ..	D.S.H.B.	27.8.38	9½	7,300	3·97	290·17	290	Sr. 3	221, 294	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Melba 24th ..	D.S.H.B.	9.8.38	N.O.C.	11,003	3·32	365·37	290	Sr. 3	277	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Moss Rose 3rd	D.S.H.B.	19.8.38	N.O.C.	11,970	3·35	401·09	350	Mature	361, 355, 446, 386, 490, 419, 374	.. Willow Park Reflector
Willow Park Moss Rose 8th	D.S.H.B.	17.8.38	N.O.C.	12,582	3·48	438·45	350	Mature	404	.. Willow Park Sherlock
Willow Park Moss Rose 10th	D.S.H.B.	28.7.38	22	10,305	3·60	370·55	290	Sr. 3	305	.. Willow Park Lustre 3rd
Willow Park Queenie 41st..	D.S.H.B.	13.9.38	18½	8,378	3·72	311·57	230	Jr. 2	..	.. Wicklesham Lord Barrington 5th (Imp.)
Willow Park Rosebud ..	D.S.H.B.	13.9.38	13½	7,800	3·50	273·10	270	Jr. 3	241	.. Steventon Forester
Steventon Dog Rose (Imp.)	D.S.H.B.	19.9.38	14	11,828	3·32	392·34	350	Mature	382	.. Stokelycross Admiral
Austin, F., Lara, Jersey (7).										
Avalon Gladstar's Daisy 3rd	51,558	3.8.38	23½	7,977	5·81	463·86	310	Jr. 4	396	.. Avalon Gladstar 2nd
Avalon Madeira's Duchess..	56,188	5.7.38	27½	8,783	5·55	487·86	270	Jr. 3	358	.. Mornmoot Prince Madeira
Avalon Madeira's Duchess 3rd	60,358	20.8.38	18	6,102	5·36	327·31	230	Jr. 2	..	.. Mornmoot Prince Madeira
Avalon Starbright's Beauty	51,560	18.8.38	25	8,640	6·07	524·38	290	Sr. 3	453	.. Brucevale Lord Starbright 3rd
Avalon Starbright's Duchess	47,062	1.8.38	30½	9,912	6·16	610·67	350	Mature	429, 499, 529	Brucevale Lord Starbright 3rd
Avalon Starbright's Duchess 2nd	51,561	14.9.38	10	7,104	5·46	388·17	290	Sr. 3	403	.. Brucevale Lord Starbright 3rd
Avalon Starbright's Pansy 6th	56,191	9.8.38	24	8,475	5·74	486·62	250	Sr. 2	358	.. Brucevale Lord Starbright 3rd

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Ballarat Orphanage, Ballarat, Jersey (13)										
Banyule Tiddlewinks 21st..	51,661	10.9.38	18½	7,279	4·93	358·59	270	Jr. 3	.. ..	Banyule Triplane
Delmont Delight ..	39,508	28.7.38	16	7,602	4·83	366·93	350	Mature	503, 361, 547	Air Poise of Banyule
Merunda Delight ..	49,537	25.8.38	24½	8,569	5·05	432·66	350	Mature	.. ..	Murona Airmine
Orphanage Attraction 5th..	Vol. 26	5.7.38	20	8,007	5·26	421·24	350	Mature	425, 399 ..	Jerseylea Quality Boy
Orphanage Attraction 8th..	54,571	20.8.38	18	8,499	4·63	393·58	330	Sr. 4	333, 331 ..	Jerseylea Quality Boy
Orphanage Handsome 5th..	Vol. 26	10.9.38	10½	5,270	5·50	289·89	250	Sr. 2	.. ..	Retford King Bracken
Orphanage Laddie's Zaffarine	36858	29.7.38	19	7,034	4·95	348·15	350	Mature	371, 341 ..	Orphanage Laddie
Orphanage Molly 4th ..	58822	14.7.38	15½	5,447	5·36	291·69	330	Sr. 4	358, 265 ..	Jerseylea Quality Boy
Orphanage Molly 5th ..	C.R.	17.9.38	15½	6,860	4·62	316·68	290	Sr. 3	269 ..	Orphanage Molly's Thorn
Orphanage Pearl 5th ..	41409	19.8.38	27½	8,903	4·99	444·53	350	Mature	252, 419, 388	Orphanage Quicksand's Prince
Orphanage Quicksand 13th	C.R.	14.9.38	13	5,079	5·41	274·95	230	Jr. 2	.. ..	Retford King Bracken
Orphanage V.C's. Molly 2nd	41413	4.9.38	21	8,339	4·61	384·81	350	Mature	324, 494 ..	Wompini V.C.
Orphanage Zaffarine 4th ..	49978	9.9.38	18½	7,016	5·46	382·93	350	Mature	365, 346 ..	Jerseylea Quality Boy
Bassett-Smith, C., Kyabram, Red Poll (2).										
Taramede Cherrywood ..	A.C.R.	11.9.38	14	4,737	4·14	196·17	250	Sr. 2	.. ..	Blackwood Tony
Temperley Dairymaid 2nd	A.C.R.	18.9.38	16	5,681	4·81	273·02	250	Sr. 2	.. ..	Temperley Dairyman
Black, Estate, Late Mrs. A. J., Noorat, Jersey (1).										
Noorat Sunset	41290	20.9.38	26	7,983	5·38	429·11	350	Mature	307, 417, 391	Banyule Airo
Black, Estate, Late I. S., Noorat, Ayrshire (2).										
Mount Noorat Alert 4th ..	29774	8.7.38	20½	7,284	4·22	307·59	290	Sr. 3	343 ..	Scottish Patron of Gowrie Park
Mount Noorat Georgina 7th	30776	16.8.38	20	7,716	4·86	375·25	250	Sr. 2	.. ..	Mount Noorat Loudon
Broad, Mrs. A. A., Sutton Grange, Jersey (6).										
Grangelea Machree 3rd ..	61942	27.7.38	18½	5,687	6·55	372·45	230	Jr. 2	.. ..	Grangelea Prosper 2nd
Grangelea Pretty Primrose 2nd	61943	21.7.38	26½	8,151	5·41	440·61	230	Jr. 2	.. ..	Grangelea Daffodil's Airo
Grangelea Regina ..	61944	11.9.38	24½	6,305	5·54	349·33	230	Jr. 2	.. ..	Grangelea Victor 3rd
Grangelea Rosebud 9th ..	61946	10.9.38	20	5,694	4·84	275·43	230	Jr. 2	.. ..	Grangelea Victor 3rd
Grangelea Rosella 3rd ..	48528	18.8.38	25½	8,013	5·65	453·01	350	Mature	319, 418, 376	Banyule Macon
Grangelea Rosette ..	57550	17.9.38	28	8,399	5·13	430·84	270	Jr. 3	295 ..	Grangelea Daffodil's Airo
Butcher, F. T., Murraydale, Red Poll (5).										
Maryville Elain	5048B	18.7.38	9	7,188	4·53	325·96	290	Sr. 3	273 ..	Chandpara Ferdinand
Maryville Edna	5897A	25.9.38	5	5,796	4·17	241·70	250	Sr. 2	.. ..	Chandpara Ferdinand
*Maryville Ena	3135B	9.9.38	4	6,690	4·11	274·94	350	Mature	290, 325 ..	Victoria Vice King
Maryville Joan	6207D	23.8.38	15	6,123	4·71	288·53	230	Jr. 2	.. ..	Temperley Prism
Maryville Rennie.. ..	6209D	5.9.38	14	7,211	3·66	264·26	230	Jr. 2	.. ..	Chandpara Ferdinand
Calf, A. J., Werribee South, Jersey (4).										
Illillouette Bing Boy's Tangerine	48745	3.9.38	24	8,424	4·82	406·40	350	Mature	313, 432, 422	Clarendon Eyre Eminent's Bing Boy
Illillouette Queen Mary ..	C.R.	27.6.38	19	6,274	5·33	334·65	230	Jr. 2	.. ..	Finchley Master's Boy
Kyora Gadget's Twinkle ..	58081	25.9.38	17	6,365	5·71	363·41	310	Jr. 4	323, 322 ..	Gadget (Imp.)
Springvale Countess 2nd ..	46162	4.9.38	19	7,265	4·92	357·64	350	Mature	320, 346, 468, 438	St. Albans Thelma's King 2nd
Chadderton, J. E., Hamilton, Jersey (5).										
Glen Leigh Destiny 2nd ..	43973	30.6.38	15	6,872	5·81	399·28	350	Mature	354, 381, 422	Glen Leigh Bounty
Glen Leigh Dolly 2nd ..	48266	22.8.38	17½	6,278	5·67	356·04	310	Jr. 4	294, 344 ..	Glen Leigh Bounty
Glen Leigh Doris 3rd ..	37039	22.9.38	10½	6,528	5·25	343·00	350	Mature	434, 493, 373, 378, 372	Strathkellar Topthorn
Glen Leigh Damsel ..	52821	15.9.38	18½	6,229	5·40	336·65	290	Sr. 3	299, 354	Glen Leigh Bounty
Glen Leigh Daphne ..	48263	17.8.38	13½	6,249	5·63	351·91	290	Sr. 3	335, 342 ..	Glen Leigh Bounty
Chirnside, R. M., Whittlesea, Jersey (12).										
Mornmoot Fancy Madeira 6th	58563	12.8.38	29	8,364	5·07	424·17	230	Jr. 2	.. ..	Werribee Madeira's Ace
Mornmoot Fancy Starbright	45256	22.7.38	35	11,000	5·64	619·85	350	Mature	396, 624, 582	Werribee Prince Madeira
Mornmoot Lotus Flower 2nd	58566	26.7.38	26	7,400	4·85	358·76	230	Jr. 2	.. ..	Werribee Madeira's Ace
Mornmoot Mimi	58567	10.9.38	20	8,436	4·90	413·28	230	Jr. 2	.. ..	War Valour (Imp.)
Mornmoot Northwood Madeira 2nd	37070	18.7.38	20	8,916	4·85	432·47	350	Mature	421, 404, 555, 541	Werribee Prince Madeira
Mornmoot Northwood Madeira 6th	58568	23.7.38	25½	7,065	5·27	372·07	230	Jr. 2	.. ..	Werribee Madeira's Ace
Mornmoot Princess Madeira 3rd	45269	28.8.38	34½	12,134	5·99	726·73	350	Mature	551, 721, 734	Staghorn Larkspur Majestic
Mornmoot Princess Madeira 9th	58569	22.7.38	27	7,778	5·48	426·10	230	Jr. 2	.. ..	Werribee Warrior
Mornmoot Princess Madeira 10th	58570	23.9.38	24½	7,303	4·80	350·69	230	Jr. 2	.. ..	Werribee Warrior
Mornmoot Princess Madeira 11th	58571	26.9.38	24	6,641	5·30	352·12	230	Jr. 2	.. ..	Werribee Madeira's Ace
Mornmoot Satisfaction 3rd	54253	22.8.38	28	10,077	4·69	472·30	270	Jr. 3	381 ..	Werribee Madeira's Ace
Mornmoot Starbright 3rd..	54255	6.8.38	..	9,168	5·09	466·50	250	Sr. 2	369 ..	Werribee Warrior

* 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Clarke, F. W., Toora, Jersey (13).										
Banyarra Sunbeam ..	42878	24.7.38	23½	8,151	5·07	413·13	350	Mature	244, 352, 398	Banyule Ventilation
Banyarra Trinket 3rd ..	42880	8.8.38	27	9,888	4·42	437·51	350	Mature	308, 364, 409, 452	Banyule Ventilation
Elanora Lilac 2nd ..	47937	29.7.38	19½	8,361	6·04	505·06	350	Mature	354, 449, 521	Burnside Harmony
Mer Vue Butterball ..	Vol. 26	6.9.38	16½	5,591	6·44	360·28	230	Jr. 2	.. ..	Berrington Largo
Mer Vue Butter Queen ..	58403	11.7.38	25½	7,847	5·01	395·56	350	Mature	358, 438, 410	Tooravale Silver King
Mer Vue Choice	37096	5.9.38	16	7,607	6·22	473·12	350	Mature	400, 498, 477, 505	Wood Searchlight
Mer Vue Choice 2nd ..	45131	4.8.38	22	7,613	6·30	479·65	350	Mature	309, 407, 513, 520	Tooravale Silver King
Mer Vue Choice 3rd ..	54081	29.8.38	24½	9,137	5·82	531·62	350	Mature	348, 447, 512	Woorayl Flashlight
Mer Vue Choice 4th ..	58404	27.7.38	23½	8,004	6·25	500·05	330	Sr. 4	404, 519 ..	Woorayl Flashlight
Mer Vue Choice Contralto	63047	19.8.38	26	8,448	6·37	538·08	250	Sr. 2	414 ..	Berrington Largo
Mer Vue Cissie	Vol. 26	8.7.38	18½	4,982	6·18	307·96	230	Jr. 2	.. ..	Mer Vue Flash Prince
Mer Vue Joy	63049	25.7.38	20	6,672	6·62	441·87	330	Sr. 4	522, 595 ..	Woorayl Flashlight
Mer Vue Wee Doris ..	Vol. 26	11.7.38	19	6,302	6·40	409·33	250	Sr. 2	.. ..	Berrington Largo
Colenso, L. W. R., Alvie, Jersey (4).										
*Braemar Vanilla 3rd ..	33743	12.8.38	4	5,400	5·25	283·26	350	Mature	324, 369, 364, 325	Avonleigh Queen's Twylight
†Normandie Alsyke 2nd ..	Vol. 26	28.7.38	4	2,993	5·80	173·56	230	Jr. 2	.. ..	Normandie Majestic
Normandie Mayflower 6th	45473	10.8.38	19½	8,517	5·21	443·76	350	Mature	274, 416, 384, 293	Normandie Majestic
†Normandie Thelma 5th ..	58749	9.8.38	4	3,315	5·09	168·84	250	Sr. 2	181 ..	Normandie Majestic
Coughlin, C., Catani, Jersey (2).										
‡Gladys Park Irish Eyes ..	C.R.	21.7.38	..	4,845	4·99	241·59	230	Jr. 2	.. ..	Staghorn Lord Segunda
§Gladys Park Rose 2nd ..	C.R.	17.7.38	..	4,575	6·02	275·64	230	Jr. 2	.. ..	Staghorn Lord Segunda
Coulthard, J., and Son, Whittlesea, Jersey (5).										
Brookfield Rosalind 22nd..	47445	14.9.38	21	6,831	5·36	366·41	350	Mature	347, 423, 356	Brookfield Ewell
Jerseyholm Kirsty 28th ..	44484	15.7.38	16	6,114	5·20	318·12	350	Mature	312, 411 ..	Werribee Master Fox
Walamba Dahlia ..	Vol. 26	24.9.38	17½	5,919	5·25	310·49	290	Sr. 3	233, 271 ..	Clarendon Eyre Brigadier 3rd
Walamba Lady Bird ..	Vol. 26	24.9.38	13½	4,485	5·78	259·07	250	Sr. 2	195 ..	Clarendon Eyre Brigadier 3rd
Wompini Lady Grey ..	64957	5.9.38	13	4,212	6·35	267·52	250	Sr. 2	294 ..	Wompini Erl King
Crawford, Mrs. E., Traralgon, Jersey (3).										
Balniel June Duchess ..	60460	28.7.38	21½	6,725	4·93	331·49	270	Jr. 3	262 ..	Werribee Royal Master
Balniel Miss Fox.. ..	60465	24.8.38	18½	5,615	5·58	313·49	270	Jr. 3	241 ..	Riversley Foxe's Hero
Balniel Valley Belle ..	Vol. 26	26.7.38	19½	5,886	4·48	263·56	230	Jr. 2	.. ..	Werribee War Volunteer
Daley, Mrs. S. G., Terang, Jersey (10).										
Belgonia Designs Empire 2nd	60535	5.9.38	18	5,342	5·31	283·55	230	Jr. 2	.. ..	Belgonia Lady's Duke
Belgonia Designs Noella ..	42697	8.8.38	20½	6,536	5·65	369·17	350	Mature	370, 462, 470, 479, 438	Designs Ruler (Imp.)
Belgonia Designs Noella 3rd	60538	14.9.38	20½	5,627	5·69	319·96	230	Jr. 2	.. ..	Duke of the Lake (Imp.)
Belgonia Designs Perree 2nd	56317	12.8.38	21	5,195	6·11	317·26	250	Sr. 2	.. ..	Designs Ruler (Imp.)
Belgonia Duke's Buttercup	47151	27.7.38	21	8,561	5·99	512·90	350	Mature	405, 543 ..	Duke of the Lake (Imp.)
Glen Iris Belle Anemone ..	Vol. 26	17.9.38	14½	5,572	5·64	314·15	230	Jr. 2	.. ..	Glen Iris Bowman
Karrara Fancy Madeira ..	Vol. 26	9.9.38	26½	7,940	5·62	446·08	230	Jr. 2	.. ..	Victorious Pioneer (Imp.)
Karrara Peree's Tecoma ..	Vol. 26	18.9.38	13	4,569	6·86	313·26	230	Jr. 2	.. ..	Springhurst Peree's Quality
Noorat Harmony ..	36911	18.8.38	21½	8,073	6·14	495·50	350	Mature	.. ..	Cellist of Warenda
Selsey Clementine's Ricious	Vol. 26	26.7.38	11	5,300	6·28	332·85	230	Jr. 2	.. ..	Mornmoot Clementine's King
De La Rue, N. C., Weering, Jersey (5).										
Grangelea Rose Petal 3rd ..	53023	28.7.38	15	6,285	5·35	336·56	290	Sr. 3	313 ..	Clarendon Eyre Eminent's Ruddigore 3rd
Leura Myrtle 4th ..	40688	12.7.38	14½	7,083	4·95	350·55	350	Mature	.. ..	Admiral of Leura
Lucerne Vale Nemesia 2nd	62829	26.8.38	18	6,419	5·28	339·24	230	Jr. 2	.. ..	Maxon Masterpiece
Lucerne Vale Silver Queen 3rd	58216	30.8.38	17½	6,608	5·78	381·75	310	Jr. 4	251, 312 ..	Lucerne Vale Noble's Master
Victoria Winsome ..	37218	20.9.38	30½	9,346	5·47	511·29	350	Mature	377, 479, 435, 352	Victoria Master Mariner
Department of Agriculture, Burnley, Jersey (4).										
Victoria Flame	51025	28.6.38	16	7,172	6·66	477·49	310	Jr. 4	276, 349 ..	Melrose Lord Essex
Victoria Flirt	33272	15.8.38	28½	9,968	6·16	614·41	350	Mature	359, 390, 484, 485, 513, 517,	Victoria Jack Tar
Victoria Lady Charm ..	55708	7.9.38	16	7,181	6·27	450·35	270	Jr. 3	310 ..	Melrose Lord Essex
Victoria Princess Betty ..	59373	18.9.38	25	7,535	5·65	423·86	230	Jr. 2	.. ..	Selsey Viola's Boy
Department of Agriculture, Werribee, Friesian (4).										
Victoria Belfry	5104	30.7.38	30	12,443	3·76	467·59	310	Jr. 4	371, 507 ..	Victoria Joyous Mercedes
Victoria Dancing Girl ..	Vol. 14	4.7.38	12	6,884	4·29	295·63	310	Jr. 4	319, 435 ..	Victoria Joyous Mercedes
Victoria Gaiety	4287	25.7.38	17½	11,348	3·80	431·52	350	Mature	370, 358, 427	Victoria Topnote
Victoria Ilkabelle ..	Vol. 14	16.9.38	30½	14,997	3·48	522·35	330	Sr. 4	384, 429 ..	Victoria Double Top

* 240 days in test. † 180 days in test. ‡ 210 days in test herd withdrawn. § 240 days in test herd withdrawn.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Department of Agriculture, Werribee, Red Poll (11).										
Victoria Agrestis	3889A	4.8.38	19	8,436	4·13	348·07	350	Mature	238, 288, 353	Dominion Bright Belgian
Victoria Albatross ..	A.A.C.R.	7.8.38	14	5,252	4·73	248·68	230	Jr. 2	.. ..	Chandpara Valentine
Victoria Asphodel ..	3008A	10.9.38	14	8,376	3·56	298·50	350	Mature	295, 322, 327, 328	Dominion Bright Belgian
*Victoria Britannia ..	6012A	29.8.38	..	5,255	4·16	218·81	290	Sr. 3	221 ..	Victoria John Bull
Victoria Decreet	3902AA	30.7.38	12½	8,066	4·06	327·19	350	Mature	253, 284 ..	Victoria Iraq
Victoria Glisten	6017A	25.7.38	10	7,280	4·10	298·37	290	Sr. 3	273 ..	Victoria John Bull
Victoria Greta	3023A	18.7.38	8½	7,301	4·21	307·59	350	Mature	256, 341, 377, 349, 407 350	Vice Regal
Victoria Hop	6020A	2.7.38	20	9,366	4·26	399·08	270	Jr. 3	331 ..	Woodburn Peter Pan
Victoria Peach	6025A	27.8.38	13	6,906	4·46	307·88	290	Sr. 3	238 ..	Victoria Gallant
Victoria Valeria	A.C.R.	14.7.38	20½	6,767	4·65	314·63	230	Jr. 2	.. ..	Chandpara Valentine
Victoria Whirlwind ..	A.C.R.	25.8.38	25	8,259	4·00	330·01	230	Jr. 2	.. ..	Victoria Goblin
Dookie Agricultural College, Dookie, Ayrshire (4).										
Dookie Flora	17776	23.7.38	29	9,804	4·33	424·45	350	Mature	317, 439, 432, 473, 409, 485, 436, 407	Majestic of Burwood
Dookie Floss	23668	23.7.38	27	8,646	4·05	350·19	350	Mature	406, 341, 444, 347, 333	Longerenong Laurie
Dookie Patsy	27120	21.9.38	31½	12,170	3·69	448·66	350	Mature	381, 457, 409	Dookie Emblem
Dookie Sparkle	27121	22.9.38	23½	9,947	3·63	360·68	350	Mature	405, 544, 499	Dookie Emblem
Enders, N. H., Stanhope, Jersey (11).										
Rintoul View Petal ..	37339	30.8.38	21½	9,579	5·51	527·33	350	Mature	484, 552, 623, 624, 574	Banyule Triplane
The Wattles Hazel 3rd ..	64548	3.8.38	19	6,044	4·70	284·13	230	Jr. 2	.. ..	The Wattles Silver Gamboge
The Wattles Joy 3rd ..	46118	18.9.38	12½	10,174	4·64	472·12	350	Mature	442, 567, 525, 524	The Wattles Biplane
The Wattles Joy 9th ..	64549	16.8.38	23	7,527	4·53	340·81	230	Jr. 2	.. ..	The Wattles Silver Gamboge
The Wattles Myra 8th ..	64553	23.9.38	23½	7,491	4·99	374·14	230	Jr. 2	.. ..	The Wattles Silver Gamboge
The Wattles Petal ..	55522	21.8.38	30	10,023	5·70	570·88	290	Sr. 3	437, 480 ..	Banyule Supine
The Wattles Petal 2nd ..	59706	4.8.38	17	5,901	6·74	397·69	250	Sr. 2	337 ..	Selsey Brampton Peer
The Wattles Petal 3rd ..	64556	21.8.38	26	7,896	5·40	426·27	230	Jr. 2	.. ..	The Wattles Silver Gamboge
The Wattles Princess 4th	50857	2.9.38	25½	8,867	5·68	504·06	330	Sr. 4	403, 448 480	The Wattles Biplane
The Wattles Silvermine 2nd	55525	4.8.38	28	8,576	5·86	502·34	310	Jr. 4	373, 453 ..	Woodside Chrissy's Gamboge
The Wattles Silvermine 5th	64558	5.8.38	24½	6,959	5·41	376·68	230	Jr. 2	.. ..	Selsey Brampton Peer
Fadersen, J. H., Mandurang, Jersey (3).										
Grovelea May Morn ..	62016	24.7.38	20½	5,702	5·20	296·63	270	Jr. 3	.. ..	Mornmoot Monarch 2nd
Grovelea Queen Bee ..	62017	2.9.38	13½	5,550	4·99	277·01	270	Jr. 3	.. ..	Mornmoot Monarch 2nd
Myall Dainty Model ..	45330	1.8.38	15½	6,402	5·14	328·90	350	Mature	330 ..	Kyora Foch
Fairchild and Clutterbuck, Tinamba, Jersey, (3).										
Vaucluse Clementine ..	59862	7.8.38	8	5,132	5·76	295·59	270	Jr. 3	281 ..	Finchley Lord Clement
Vaucluse Marie Rose ..	64739	1.9.38	19½	7,418	5·45	404·08	310	Jr. 4	403 ..	Vaucluse Concentration
Vaucluse Tinsel 2nd ..	Vol. 26	16.9.38	20	6,095	5·67	345·31	230	Jr. 2	.. ..	Paisley Master
Findlay, G. M., Leitchville, Jersey (8).										
Leven Brae A'do Edith ..	53790	5.9.38	N.O.C.	8,583	4·41	378·78	350	Mature	360, 436 ..	Werribee Mikado
Leven Brae A'do Joan 2nd	Vol. 26	17.8.38	12	6,036	5·70	343·87	230	Jr. 2	.. ..	Werribee Mikado
†Leven Brae A'do Madeira	58166	1.9.38	4	7,043	4·58	322·56	290	Sr. 3	380 ..	Werribee Mikado
Leven Brae A'do Choicest..	62759	23.8.38	N.O.C.	6,410	5·45	349·19	270	Jr. 3	.. ..	Werribee Mikado
Leven Brae Gay Capture ..	37375	13.9.38	10	6,106	5·07	309·77	350	Mature	420, 457, 492	Werribee Gaypiece
Leven Brae Peeress 5th ..	40704	29.8.38	N.O.C.	8,501	4·84	411·27	350	Mature	358, 386, 450	Werribee Gaypiece
‡View Banks Bonnie Peeress	C.R.	12.9.38	4	6,375	5·19	331·01	290	Sr. 3	.. ..	View Banks Bonnie Boy
View Banks Bright Girl ..	Vol. 26	13.9.38	13	6,204	5·64	349·67	230	Jr. 2	.. ..	Leven Brae Queenie's Mikado
Fixter, A., Boisdale, Guernsey (1).										
Fernlea Eve	2539	27.7.38	16	6,927	4·76	329·63	350	Mature	276, 307, 275, 323, 424, 361	Yarraview Albert
Fixter, W., Boisdale, Jersey (1).										
Olivedale Vanilla 4th ..	Vol. 26	27.7.38	14½	5,234	6·54	342·17	230	Jr. 2	.. ..	Finchley Handsome Boy
Foster Bros., Boisdale, Jersey (6).										
Boisdale Blonde 2nd ..	51840	23.8.38	6	4,639	5·73	265·75	330	Sr. 4	263, 212 ..	Gladiator of Springhurst
Boisdale Brunette 4th ..	47287	18.9.38	8½	5,156	5·41	278·85	350	Mature	246, 246, 277	Gladiator of Springhurst
Boisdale Butterfly 3rd ..	Vol. 26	31.8.38	6	2,828	5·54	156·65	230	Jr. 2	.. ..	Wompini Master Grey
Boisdale Goldfinch ..	51844	4.9.38	6½	4,318	6·47	279·57	310	Jr. 4	193, 246 ..	Boisdale Dazzler
Myrtleview Sweet Maid ..	41208	31.8.38	5½	4,709	4·75	223·76	350	Mature	311, 284, 383, 256	Summerhill Economist
Studleigh Harebell 15th ..	46264	3.9.38	15½	5,910	5·12	302·64	350	Mature	389 ..	Bellefaire Blonde's Blondex

* 250 days in test (sold). † 240 days in test. ‡ 210 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Fraser, G. A., Addington, Ayrshire (3).										
Bonnie Doon Bertha ..	26968	19.9.38	19	9,917	4·65	461·54	350	Mature	257, 299, 354	Glengowrie Masterpiece
Bonnie Doon Betty ..	30206	5.7.38	16	7,721	5·49	423·72	250	Sr. 2	.. ..	Bonnie Doon Baronet
Bonnie Doon Sunshine ..	30214	1.7.38	24½	8,534	4·00	341·00	250	Sr. 2	.. ..	Bonnie Doon Baronet
Fraser-Parks, E., Merton, Jersey (1).										
Navua Cowslip's Queen ..	54401	13.9.38	15	4,537	4·67	211·97	270	Jr. 3	.. ..	Bravo's Lad (Imp.)
Gay, R. G. and Son, North Devon, Jersey (8).										
Elm Grove Dawn ..	52626	26.8.38	17½	7,857	5·13	403·13	350	Mature	304, 347, 376	Gold Star of Melrose
Elm Grove Island Maid ..	61463	3.9.38	15½	5,693	5·72	325·69	270	Jr. 3	249 ..	Werribee Island King
Elm Grove Island Queen ..	61464	6.9.38	17	6,010	5·66	340·11	270	Jr. 3	281 ..	Werribee Island King
Elm Grove Lady Loch 2nd	52628	14.8.38	17½	6,911	5·19	358·66	330	Sr. 4	313, 339 ..	Gold Star of Melrose
Elm Grove Laura ..	37416	29.8.38	14½	6,107	5·86	358·08	350	Mature	283, 338, 380, 386, 387	Gold Star of Melrose
Elm Grove Linda ..	43737	21.8.38	20½	9,656	4·85	467·96	350	Mature	285, 424, 494, 403	Gold Star of Melrose
Elm Grove Linda 2nd ..	52629	1.9.38	19	7,034	5·28	371·29	350	Mature	282, 330 ..	Gold Star of Melrose
Elm Grove Linda 3rd ..	52630	26.8.38	15½	6,497	4·78	310·49	330	Sr. 4	250, 309, 303	Elm Grove Buttercup's Monarch
Goddard, J. H., Cora Lynn, Ayrshire (7).										
Donside Lydo Lady ..	23657	19.9.38	28	12,855	4·74	609·80	350	Mature	457, 622, 672, 480	Olivedale Chum
Donside Rose	23660	2.7.38	25	12,741	4·69	597·48	350	Mature	326, 502 ..	Olivedale Reality
Inverurie Blue Belle ..	30700	7.9.38	29½	11,150	4·62	514·91	230	Jr. 2	.. ..	Inverurie Laddie
Inverurie Lydo Lady ..	30704	27.8.38	23½	10,187	4·65	473·30	270	Jr. 3	299 ..	Inverurie Laddie
Inverurie Maggie ..	27417	31.7.38	4	6,762	4·06	274·31	350	Mature	366, 375, 275	Oakbank Radio
Inverurie Rayda ..	27419	26.7.38	29	11,033	4·79	529·01	330	Sr. 4	393, 289 ..	Oakbank Radio
*Inverurie Realm ..	27420	6·8·38	4	4,410	3·59	158·15	350	Mature	272, 286, 249	Oakbank Radio
Grice, C. S., Tyabb, Jersey (3).										
Belgonia Suspense 6th ..	56325	6.9.38	17½	7,658	6·24	477·73	270	Jr. 3	413 ..	Design's Ruler (Imp.)
Grangelea Bunty 7th ..	53016	14.8.38	14½	5,392	6·05	326·40	290	Sr. 3	358 ..	Banyule Macon
Tyabb Lady Pearl ..	Vol. 26	17.9.38	14½	6,835	4·67	319·17	290	Sr. 3	.. ..	Somerville Perla
Handbury, J. E. and Son, No. 1 Farm, Toora, Jersey (13).										
Tooravale Bettws-y-Coed 2nd	Vol. 26	28.7.38	23½	6,424	5·33	342·72	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Tooravale Lassie 14th ..	55578	26.8.38	20½	8,447	5·61	474·20	350	Mature	298, 408, 459	Tooravale Gold Speck
Tooravale Lassie 17th ..	55580	27.8.38	26	8,729	5·52	481·96	330	Sr. 4	318, 423, 458	King's Vale Monica 14th's Son
Tooravale Lassie 19th ..	59762	5.8.38	30½	9,900	5·06	501·24	290	Sr. 3	298, 393 ..	King's Vale Monica 14th's Son
Tooravale Lassie 22nd ..	64607	27.8.38	17	7,031	5·69	400·07	270	Jr. 3	351 ..	Pinewood Aristocrat (Imp.)
Tooravale Lassie 27th ..	Vol. 26	3.8.38	20	6,502	5·59	363·49	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Tooravale Lassie 28th ..	Vol. 26	4.8.38	24	7,287	5·37	391·58	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Tooravale Lassie Fowler 14th	50893	5.7.38	22	8,001	5·91	472·49	350	Mature	311, 441, 497	King's Vale Monica 14th's Son
Tooravale May 7th ..	59765	25.7.38	27	8,361	4·85	405·80	290	Sr. 3	299, 382 ..	Tooravale Monica's Son
Tooravale Milkmaid 24th ..	64611	22.7.38	16	6,594	5·40	355·99	250	Sr. 2	327 ..	Pinewood Aristocrat (Imp.)
Tooravale Princess 23rd ..	Vol. 26	4.8.38	27	7,116	5·14	365·42	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Tooravale Princess 24th ..	Vol. 26	3.8.38	25	6,803	5·21	354·58	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Tooravale Princess 27th ..	Vol. 26	30.7.38	18½	6,011	5·72	343·75	230	Jr. 2	.. ..	Pinewood Aristocrat (Imp.)
Handbury, J. E. and Son, No. 2 Farm, Toora, Jersey (7).										
Tooravale Clover 4th ..	55576	22.8.38	13	5,327	5·76	306·88	330	Sr. 4	205, 273, 306	Tooravale Monica's Son
Tooravale Lassie Fowler 8th	42254	16.8.38	24	6,033	5·08	306·66	350	Mature	286, 377, 435, 326, 326, 282	Tooravale Golden Mac
Tooravale Lassie Fowler 10th	42255	11.8.38	15	5,990	5·54	332·13	350	Mature	225, 293, 315, 280, 326, 336	King's Vale Monica 14th's Son
Tooravale Maid's Princess 4th	59764	29.7.38	15	5,784	5·50	318·36	290	Sr. 3	211, 228 ..	Tooravale Gold Speck
Tooravale Milkmaid 18th ..	55584	12.9.38	9½	4,573	6·45	295·06	310	Jr. 4	215, 254 ..	Tooravale Gold Speck
Tooravale Milkmaid 19th ..	59766	29.8.38	10	5,234	5·55	290·61	310	Jr. 4	175, 232 ..	Tooravale Gold Speck
Tooravale Starleigh 12th ..	64614	30.7.38	16	4,938	6·00	296·13	290	Sr. 3	213 ..	Tooravale Gold Speck
Handley, S. C., Dandenong, Jersey (2).										
Barrowby Queen 2nd ..	38809	28.7.38	25½	9,308	4·97	462·58	350	Mature	286, 383, 387, 441, 429	Grangelea Progress
Barrowby Rose Fancy ..	56280	15.7.38	33	9,651	5·61	541·45	310	Jr. 4	316, 383, 511	Wompini Twilight
Harvey, T., Boisdale, Jersey (6).										
Jerseyholm Bluebell 13th ..	40371	23.8.38	16	6,479	5·15	333·60	350	Mature	281, 381, 371, 361	Werribee Master's Fox
Jerseyholm Bluebell 17th ..	44478	1.9.38	8½	5,589	5·46	304·99	350	Mature	310, 346, 365	Werribee Master's Fox
Jerseyholm Empress 32nd ..	40379	24.7.38	25	8,555	4·88	417·39	350	Mature	345, 367, 343, 448	Werribee Master's Fox
Jerseyholm Empress 42nd..	53359	21.9.38	16	6,695	5·68	380·27	330	Sr. 4	331, 398 ..	Jerseyholm Master's Expert
Jerseyholm Empress 45th ..	53362	23.9.38	20	9,177	4·87	447·07	290	Sr. 3	343, 361 ..	Jerseyholm Master's Fox 6th
Jerseyholm Kirsty 30th ..	53363	23.7.38	20½	6,995	5·32	371·94	310	Jr. 4	286 ..	Jerseyholm Master's Expert 7th

* 180 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Haywood, Dr. A. R., Hastings, Jersey (5).										
Windrest Chevy 2nd ..	60056	9.9.38	10½	5,043	5·80	292·29	290	Sr. 3	.. ..	Windrest Neptune
Windrest Chevy's Charm ..	60057	4.9.38	11	6,104	6·18	377·26	310	Jr. 4	254, 396 ..	Glen Iris Montrose Duke
Windrest Island Gold ..	60058	11.9.38	7½	6,554	4·94	323·46	310	Jr. 4	209, 348 ..	Glen Iris Montrose Duke
Windrest Island Goldmine..	Vol. 26	6.9.38	16	6,411	4·98	319·36	230	Jr. 2	.. ..	Gadget (Imp.)
Dalmore Park Princess ..	Vol. 26	18.8.38	13	5,760	5·37	309·16	250	Sr. 2	.. ..	Irona Beauvallet
Henderson, W., Grasmere, Ayrshire (13).										
*Carracoorte Balm 18th ..	27003	16.9.38	4	3,705	4·92	182·34	350	Mature	305, 236 ..	Gerty's Producer of Carracoorte
†Carracoorte Bellona 14th	23542	13.7.38	4	5,985	3·87	231·74	350	Mature	230, 350, 396, 260, 226	Gerty's Producer of Carracoorte
‡Carracoorte Bonnie 4th ..	24678	18.9.38	4	3,030	3·68	111·36	350	Mature	326, 360, 310	Blue Bell's Pride of Glencourt
†Carracoorte Buttercup 5th	29206	26.7.38	4	5,430	4·62	251·01	290	Sr. 3	215 ..	Grandview Bernie
†Carracoorte Gerty 12th ..	29208	13.7.38	4	5,910	4·39	259·23	350	Mature	291, 211, 218	Gerty's Producer of Carracoorte
*Carracoorte Gladys ..	30261	20.9.38	4	3,000	4·40	131·98	290	Sr. 3	187 ..	Grandview Bernie
†Carracoorte Iris 17th ..	24695	10.7.38	4	5,415	4·47	242·24	350	Mature	245, 269, 157, 325	Carracoorte Maiden's Laddie
Carracoorte Iris 18th ..	24696	9.8.38	18	8,393	4·20	352·37	350	Mature	239, 410, 293	Carracoorte Maiden's Laddie
†Carracoorte Palm 4th ..	28176	6.8.38	4	4,770	3·96	189·04	330	Sr. 4	163 ..	Grandview Bernie
†Carracoorte Viola 22nd ..	24712	8.7.38	4	6,270	4·44	278·45	350	Mature	251, 304, 224, 297, 271	Carracoorte Pilot
§Carracoorte Viola 26th ..	30266	30.8.38	4	4,200	4·77	200·18	350	Mature	251, 239, 254	Carracoorte Pilot
*Gleneira Dearie ..	29466	22.9.38	4	3,990	3·76	194·94	310	Jr. 4	.. ..	Gleniera Dandy
Jennewar Cynthia ..	29670	20.9.38	8	5,964	4·06	242·02	290	Sr. 3	210 ..	Denbigh Ace
Hore, E., Leitchville, Jersey (17).										
Ballara Lassie 3rd ..	42861	26.7.38	18	7,808	5·22	407·49	350	Mature	442, 487, 474, 487	Brucevale Lord Fancy Madeira
Leven Brae Gay Countess..	40698	22.9.38	10½	6,522	4·91	319·04	350	Mature	247, 342, 441, 531, 409, 438, 410, 430	Werribee Gaypiece
Milvue Cariad Suspense ..	63097	3.8.38	11½	6,107	4·72	288·55	230	Jr. 2	.. ..	Belgonia Suspense's Design
Milvue Christmas Lily ..	58459	18.9.38	17½	5,879	6·18	363·47	270	Jr. 3	313 ..	Milvue Bettwy's Master
Milvue Eminent's Bettwys	63101	9.7.38	14	6,227	4·24	264·19	230	Jr. 2	.. ..	Clarendon Eyre Eminent's Boomerang 4th
Milvue Honesty	58462	7.9.38	23½	7,086	5·13	363·49	270	Jr. 3	313 ..	Clarendon Eyre Eminent's Lion 5th
Milvue Larkspur's Attraction	58464	26.7.38	18	7,671	5·84	447·86	250	Sr. 2	427 ..	Clarendon Eyre Eminent's Lion 5th
Milvue Madeiras Coronation	C.R.	13.8.38	N.O.C.	4,887	4·79	234·26	230	Jr. 2	.. ..	Belgonia Suspense's Design
Milvue Perree's Dainty ..	63103	17.7.38	14½	5,106	4·77	243·51	230	Jr. 2	.. ..	View Banks Perree's Boy
‖Milvue Petal	58466	3.9.38	4	5,645	5·40	304·87	250	Sr. 2	323 ..	Balcairn Mabel's Master
Milvue Roseleaf 2nd ..	58468	19.9.38	22	7,077	5·33	377·52	290	Sr. 3	356 ..	Milvue Christmas Melody
Milvue Tiny Rosebud ..	58469	3.8.38	14	6,392	5·38	343·83	250	Sr. 2	356 ..	Milvue Bettwy's Master
Milvue Twylish Bettwys ..	58470	1.7.38	14½	8,186	5·28	432·16	310	Jr. 4	367, 382 ..	Milvue Christmas Melody
Tavistock Valerie ..	55444	14.8.38	N.O.C.	6,534	5·84	381·90	330	Sr. 4	324, 441, 502	Werribee Ranger
Troed-yr-Rhiw Dilys 2nd ..	50928	5.8.38	21	9,047	5·21	471·56	350	Mature	373, 419, 453	Glen Iris Montrose Duke
Troed-yr-Rhiw Eastern Queen	59794	1.8.38	17	7,707	5·48	422·16	290	Sr. 3	355, 403 ..	Clarendon Eyre Oxford Dreamer
Troed-yr-Melys 2nd ..	64658	7.8.38	21½	8,163	5·24	427·93	330	Sr. 4	296, 419 ..	Troed-yr-Rhiw Masterpiece
Hore, M. T., Leitchville, Friesian (10).										
Elmar Flo	Vol. 14	29.8.38	21½	7,085	3·55	251·70	270	Jr. 3	.. ..	Greenvale Oakwood Posch
Elmar Frescolene ..	C.R.	20.9.38	26	10,752	3·45	371·44	310	Jr. 4	.. ..	Elmar Sylvia's Lad
Elmar Highland Lass ..	Vol. 14	20.9.38	27½	7,919	3·25	257·22	250	Sr. 2	.. ..	Elmar Sylvia's Lad
Elmar Lackie	C.R.	23.8.38	30½	8,786	2·86	251·69	230	Jr. 2	.. ..	Burnbank Iona's Rock
Elmar Mona 3rd ..	C.R.	19.9.38	27	7,906	3·14	248·16	230	Jr. 2	.. ..	Burnbank Iona's Rock
Elmar Monica 2nd ..	C.R.	19.9.38	27	7,608	3·80	289·41	230	Jr. 2	.. ..	Burnbank Iona's Rock
Elmar Patricia	Vol. 14	15.8.38	28½	10,668	2·89	308·63	270	Jr. 3	.. ..	Elmar Sylvia's Lad
Elmar Trixie	C.R.	19.9.38	21½	6,482	3·70	240·15	250	Sr. 2	.. ..	Elmar Sylvia's Lad
Elmar Yvonne's Pride ..	C.R.	1.9.38	25	9,743	3·15	307·19	290	Sr. 3	.. ..	Elmar Sylvia's Lad
Greenvale Flora	App. 2 Vol. 11	31.7.38	30½	14,729	3·78	556·48	350	Mature	484, 399, 453	Victoria Double Oak De Kol
Huffer, J. A., Gormandale, Jersey (3).										
Glen Valley Mercedes 2nd	57472	8.9.38	17	5,979	5·17	309·39	350	Mature	363, 285 ..	Brucevale Wyandotte's King
Glen Valley Pet ..	C.R.	25.8.38	17½	5,613	4·42	248·19	230	Jr. 2	.. ..	Glen Valley Sir Roger 2nd
Glen Valley Silvershine ..	52946	16.8.38	21	6,590	5·69	374·72	350	Mature	282, 386, 397, 420, 398	Melrose Ensign
Hurrey, W. H., Koonwarra, Jersey (10).										
Burwood Cream Belle 4th..	60927	12.9.38	12½	5,101	6·63	338·13	270	Jr. 3	273 ..	Kooreena Handsome Lad
Burwood Mourier Belle ..	56652	23.9.38	18	7,017	5·92	415·51	350	Mature	362, 385 ..	Columbine's Defiance of Linga Longa
Kooreena Audrey 9th ..	58053	18.7.38	20	6,405	5·42	347·09	290	Sr. 3	311 ..	Kooreena Carrie 3rds Halo

* 180 days in test. † 240 days in test. ‡ 150 days in test. § 210 days in test.
‖ 254 days in test

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Hurrey, W. H. Koonwarra—*continued.*										
Kooreena Carrie 8th ..	62625	3.8.38	18½	5,439	6·35	345·42	250	Sr. 2	.. ..	Kooreena Mourier's King 2nd
Kooreena Carrie 9th ..	Vol. 26	15.9.38	17	6,104	6·24	381·12	230	Jr. 2	.. ..	Kooreena Good Luck
Kooreena Lulu 11th ..	Vol. 26	3.7.38	20	5,326	5·47	291·21	250	Sr. 2	.. ..	Kooreena Carrie 3rds Halo
Kooreena Maranta 7th ..	40585	27.8.38	21	7,685	5·66	434·59	350	Mature	313, 402, 471, 458	Columbine's Defiance of Linga Longa
Kooreena Maranta 16th ..	62629	18.9.38	16	6,452	6·17	398·30	250	Sr. 2	367 ..	Kooreena Carrie 3rds Halo
Kooreena Minerva 2nds Jewel	Vol. 26	21.9.38	N.o.c.	5,213	5·68	296·17	230	Jr. 2	.. ..	Kooreena Handsome Lad
Kooreena Yo Yo ..	44759	22.9.38	12	7,444	5·31	395·13	350	Mature	360, 390, 438, 409	Columbine's Defiance of Linga Longa
Jones, A. C., Barnawartha, Illawarra, Shorthorn (9).										
Aralabrad Bertha 5th ..	6641	30.8.38	20	7,167	4·22	302·67	350	Mature	.. ..	Headlight of Aralabrad
Aralabrad Daisy 2nd ..	16856	21.7.38	15½	6,499	3·83	248·93	350	Mature	.. ..	Cromwell of Darbalara
The Forest Belle 8th ..	14538	10.7.38	20	7,216	3·56	256·61	350	Mature	.. ..	Despatch of The Forest
The Forest Caroline ..	6596	24.9.38	14½	8,905	3·47	308·89	350	Mature	.. ..	Renown of Mayfield
The Forest Posy 6th ..	18258	15.8.38	12	5,739	4·54	260·44	350	Mature	.. ..	Despatch of The Forest
The Forest Posy 7th ..	14547	23.9.38	21	8,170	3·48	284·04	350	Mature	.. ..	The Forest Goldmine
¶The Forest Tiny 5th ..	1410	17.9.38	4	5,010	3·51	175·75	350	Mature	.. ..	Renown of Mayfield
Wangoola Buttercup ..	Vol. 7	31.8.38	18	6,179	4·63	286·14	290	Sr. 3	.. ..	The Forest King 2nd
Wangoola Shamrock 3rd ..	Vol. 7	30.8.38	19	6,247	4·16	259·68	270	Jr. 3	.. ..	Mayfield Gold Digger
Leask, G. C., Garfield, Ayrshire (6).										
*Burghclere Carnation ..	31135	20.8.38	16½	5,321	3·52	187·11	230	Jr. 2	.. ..	Wayside Wilfred
†Burghclere Iris	30222	1.9.38	4	4,515	3·76	169·74	250	Sr. 2	287 ..	Wayside Wilfred
Glen Afton Margot ..	26142	20.7.38	12	8,669	3·68	318·62	350	Mature	312 ..	Glen Afton Gay Lad
†Glen View Messie 9th ..	30600	20.9.38	4	5,715	3·55	202·65	350	Mature	253 ..	Glen View Standish
Wayside Constance ..	28945	13.9.38	8½	8,066	3·90	314·61	350	Mature	345, 354 ..	Wayside Winsome's Scott
Wayside Dahlia	30992	14.9.38	16½	6,793	4·29	291·36	290	Sr. 3	317 ..	Gowrie Park Great Scot
Le Noury, E., Werribee South, Guernsey (4).										
Werribee Merry Maid ..	2638	15.7.38	12½	5,423	5·75	311·68	350	Mature	214, 310, 300, 337, 325	Yarraview Saxon
Werribee Model Maid ..	8089	14.8.38	16	6,008	4·57	274·34	230	Jr. 2	.. ..	Werribee Prince Don
Werribee Rambler's Delight	3931	27.8.38	8	5,874	4·52	265·74	350	Mature	314, 351, 338, 258	Valentine Salone of Maple Lodge
*Werribee Souvenir ..	8091	22.8.38	..	5,248	5·21	273·67	230	Jr. 2	.. ..	Yarraview Commander
Longerenong Agricultural College, Dooen, Ayrshire (5).										
Longerenong Cootamundra Wattle 2nd	29740	30.8.38	N.o.c.	6,156	3·73	229·91	250	Sr. 2	231 ..	Dookie Punch
Longerenong Cootamundra Wattle 4th	30758	21.9.38	18	5,741	3·94	225·95	230	Jr. 2	.. ..	Dookie Punch
‡Longerenong Golden Wattle 4th	30759	11.9.38	4	2,685	3·91	104·99	230	Jr. 2	.. ..	Dookie Punch
Longerenong Laurustine 2nd	26560	22.9.38	7	5,965	4·13	246·48	350	Mature	221, 306, 323	Longerenong Noble
Longerenong Silver Wattle 4th	30762	27.8.38	10	4,509	4·18	188·63	230	Jr. 2	.. ..	Dookie Punch
Lyon, C. G., Heidelberg, Jersey (7).										
Banyule Ettie 18th ..	38796	16.8.38	..	6,677	6·47	431·81	350	Mature	403, 435 ..	Banyule Triplane
§Banyule Silvermine 63rd..	28844	16.9.38	..	5,783	4·92	284·42	350	Mature	343, 329, 469, 429, 472, 417	Air Lord of Banyule
‖Banyule Silvermine 86th..	42888	11.9.38	..	7,935	5·80	460·55	350	Mature	409, 449 ..	Banyule Triplane
Banyule Silvermine 88th ..	42890	4.8.38	26½	8,027	4·76	382·29	330	Sr. 4	359, 380 ..	Oxford Beau's Pretty Oxford (Imp.)
‖Banyule Silvermine 90th..	42892	29.8.38	..	7,673	5·38	412·54	330	Sr. 4	337, 394 ..	Oxford Beau's Pretty Oxford (Imp.)
§Banyule Silvermine 92nd..	47126	19.9.38	..	4,410	5·53	243·70	310	Jr. 4	301, 294 ..	Oxford Beau's Pretty Oxford (Imp.)
Rowallan Wildflower 2nd ..	64130	25.7.38	17½	5,873	5·05	296·78	230	Jr. 2	.. ..	Rowallan Silvanite
Macaulay, C. W., Rochester, Jersey (6).										
Taranah Dahlia 3rd ..	Vol. 26	30.7.38	17½	6,596	5·91	389·80	250	Sr. 2	319 ..	Taranah Reliance
Taranah Fair Lady 3rd ..	Vol. 26	29.8.38	17	6,008	5·98	359·13	230	Jr. 2	.. ..	Werribee Bluebell's Masterpiece
¶Taranah Flora 2nd ..	59633	20.9.38	4	7,545	5·26	397·12	290	Sr. 3	340, 374 ..	Taranah Commander
Taranah Flora 3rd ..	Vol. 26	15.8.38	18	6,299	5·57	350·60	230	Jr. 2	.. ..	Taranah Fair Boy
Taranah Rainbow 2nd ..	64463	11.8.38	18½	7,000	5·43	380·06	250	Sr. 2	286 ..	Werribee Bluebell's Masterpiece
¶Taranah Rainbow 3rd ..	Vol. 26	16.9.38	4	4,860	5·78	280·77	230	Jr. 2	.. ..	Taranah Fair Boy
McErvale, I., and Sons, Camperdown, Jersey (15).										
Cumnock Blue Bell ..	Vol. 26	8.9.38	17	4,985	5·03	250·84	230	Jr. 2	.. ..	Cumnock Govenor General
Cumnock Cynthia ..	Vol. 26	8.8.38	9½	4,842	5·29	256·17	330	Sr. 4	269 ..	Cumnock Fancy Masterpiece
¶Cumnock Cyrilla ..	61240	23.7.38	4	4,858	4·58	222·59	350	Mature	280 ..	Cumnock Fancy Masterpiece
Cumnock Delysia ..	61242	14.9.38	16	5,628	5·00	251·32	310	Jr. 4	284 ..	Cumnock Fancy Masterpiece

* 252 days in test. † 180 days in test. ‡ 210 days in test. § 210 days in test (sold).
‖ 240 days in test (sold). ¶ 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
McErvale, I., and Sons, Camperdown—*continued.*										
Cumnock Fancy Mona ..	57026	6.8.38	10½	4,856	5·53	268·58	350	Mature	298 ..	Cumnock Fancy Masterpiece
Cumnock Gem	C.R.	17.8.38	9	3,555	5·39	191·56	230	Jr. 2	.. ..	Airlie Golden Lad
Cumnock Grace	C.R.	13.8.38	5½	4,022	5·14	206·72	230	Jr. 2	.. ..	Cumnock Governor General
Cumnock Hope	Vol. 26	16.8.38	11	4,425	5·31	235·03	230	Jr. 2	.. ..	Airlie Golden Lad
Cumnock Lone Girl ..	47853	7.7.38	6½	6,138	4·62	283·44	350	Mature	339, 313 ..	Cumnock Fancy Masterpiece
Cumnock Marigold ..	61244	10.9.38	10	4,337	4·49	194·93	350	Mature	283 ..	Cumnock Fancy Masterpiece
Cumnock Pansy	Vol. 26	15.9.38	11	4,113	5·08	208·97	230	Jr. 2	.. ..	Cumnock Governor General
Cumnock Princess Betty ..	Vol. 26	5.9.38	14	4,284	4·92	210·86	230	Jr. 2	.. ..	Staghorn Prince Clementine
Cumnock Radiant ..	Vol. 26	10.8.38	8½	3,986	5·33	212·54	270	Jr. 3	.. ..	Cumnock Fancy Masterpiece
Cumnock Sylvia ..	57029	12.9.38	12	4,835	5·14	248·73	350	Mature	.. ..	Cumnock Fancy Masterpiece
*Lauriston Bluebell 3rd ..	40636	24.7.38	4	5,025	5·03	252·79	350	Mature	290 ..	Lauriston Twylish Nobility
McNabb, G. A., and Son, Irrewillipe East, Jersey (22).										
Maxon Bright Clara ..	54013	30.8.38	12½	5,540	5·46	302·53	290	Sr. 3	315, 358 ..	Maxon Starbright Prince 5th
Maxon Bright Primrose 2nd	58344	27.8.38	18½	5,801	4·73	274·40	250	Sr. 2	296 ..	Maxon Starbright Prince 5th
Maxon Chieftain's Alsyke	49122	15.8.38	9½	4,327	6·36	275·39	330	Sr. 4	188, 282, 304	Maxon Chieftain
Maxon Count's Daisy 2nd..	54017	22.9.38	12	5,795	5·65	327·68	310	Jr. 4	245, 293 ..	Maxon Count Graceful
Maxon Count's Alsyke 4th..	58348	7.8.38	10	4,046	6·40	258·90	250	Sr. 2	331 ..	Maxon Count Graceful
Maxon Count's Alsyke 6th..	62995	25.9.38	12½	2,651	5·61	148·61	230	Jr. 2	.. ..	Maxon Count Graceful
Maxon Count's Daisy 3rd ..	58349	28.8.38	11½	4,370	6·82	297·91	270	Jr. 3	284 ..	Maxon Count Graceful
Maxon Count's Favourite 2nd	49423	14.8.38	12½	4,385	6·64	291·12	330	Sr. 4	227, 280, 338	Maxon Count Graceful
Maxon Count's Favourite 3rd	58351	13 8.38	13½	5,064	5·26	266·34	250	Sr. 2	277 ..	Maxon Count Graceful
Maxon Count's Favourite 4th	62999	12.8.38	11	3,611	6·41	231·37	230	Jr. 2	.. ..	Maxon Count Graceful
Maxon Count's Lodestone 2nd	54020	26.8.38	10½	4,915	5·21	255·86	310	Jr. 4	339, 339 ..	Maxon Count Graceful
Maxon Count's Marie ..	49424	12.8.38	12	5,951	5·28	314·48	330	Sr. 4	210, 331, 313	Maxon Count Graceful
Maxon Count's Ranunculus 2nd	58353	7.9.38	13½	4,432	6·14	272·04	270	Jr. 3	319 ..	Maxon Count Graceful
Maxon Graceful Bouvardia	49426	10.8.38	16	5,397	6·24	336·87	310	Jr. 4	252, 328, 439	Maxon Count Graceful
Maxon Graceful Duchess 2nd	49427	1.9.38	9½	4,423	6·53	288·77	350	Mature	282, 392, 374	Maxon Count Graceful
Maxon Graceful Marie ..	49428	17.8.38	12	4,329	5·23	226·33	330	Sr. 4	200, 292, 271	Maxon Count Graceful
Maxon Linnacre's Clara ..	63003	31.8.38	13½	2,867	5·82	166·98	230	Jr. 2	.. ..	Maxon Linnacre's Starbright 2nd
Maxon Linnacre's Daisy ..	63004	5.9.38	12	3,830	5·27	201·90	230	Jr. 2	.. ..	Maxon Linnacre's Starbright 2nd
Maxon Linnacre's Estelle ..	63005	1.9.38	15½	3,104	5·97	185·35	230	Jr. 2	.. ..	Maxon Linnacre's Starbright 2nd
Maxon Noble's Lodie 2nd ..	58357	6.8.38	12	4,686	5·53	259·30	270	Jr. 3	310 ..	Avalon Noble 8th
Maxon Silver Light ..	58358	31.8.38	12½	4,668	6·32	295·14	270	Jr. 3	304 ..	Maxon Count Graceful
Maxon Sweet Estelle ..	54029	28.8.38	17	5,498	5·93	326·28	290	Sr. 3	285, 397 ..	Maxon Count Graceful
Maher, R. H., Tongala, Jersey (11).										
Rosemont Daisy 6th ..	Vol. 26	6.7.38	9	5,089	4·74	241·06	250	Sr. 2	.. ..	Rosemont Golden Emblem
Rosemont Duchess Fowler..	59283	2.9.38	17	6,171	5·49	338·60	290	Sr. 3	.. ..	Rosemont Golden Emblem
Rosemont Jenny Lind 10th	55080	25.9.38	7	4,836	5·86	283·28	330	Sr. 4	224, 346, 316	Rosemont Laddie Fowler 3rd
Rosemont Lady Fowler 9th	50459	8.7.38	19½	6,404	4·67	299·32	350	Mature	254, 239, 291	Duke of the Lake (Imp.)
Rosemont Lady Fowler 10th	55081	9.7.38	14½	4,980	4·79	238·79	330	Sr. 4	204 ..	Rosemont Laddie Fowler 3rd
†Rosemont Lady Fowler 13th	59287	3.7.38	..	5,670	4·99	283·18	290	Sr. 3	212 ..	Rosemont Golden Emblem
‡Rosemont Lassie Fowler 10th	50460	6.8.38	..	6,315	5·07	320·28	350	Mature	270, 329, 299, 332	Rosemont Laddie Fowler 3rd
Rosemont Lassie Fowler 11th	59288	7.8.38	10½	5,372	5·94	319·29	310	Jr. 4	237 ..	Rosemont Golden Emblem
Rosemont Laura 7th ..	50461	24.8.38	11½	5,645	5·59	315·39	350	Mature	247, 311 ..	Rosemont Laddie Fowler 3rd
Rosemont Primrose 4th ..	41866	4.9.38	15	7,260	5.58	404·79	350	Mature	365, 333, 360, 353	Rosemont Laddie Fowler 3rd
Rosemont Primrose 6th ..	64065	30.8.38	18½	7,451	5·40	402·58	290	Sr. 3	339 ..	Rosemont Laddie Fowler 3rd
Maloney, P. J., Tongala, Jersey (5).										
Belgonia Design's Marie 2nd	51700	6.9.38	16½	9,510	4·87	463·19	310	Jr. 4	392, 392 ..	Designs Ruler (Imp.)
Belgonia Duke's Buttercup 2nd	56318	14.8.38	23	8,649	5·15	445·20	250	Sr. 2	349 ..	Designs Ruler (Imp.)
Belgonia Gem's Noella ..	42922	18.9.38	17	9,626	5·04	485·14	350	Mature	367, 495, 552,	Duke of the Lake (Imp.)
Belgonia Junette 3rd ..	56321	6.9.38	22	8,510	5.55	472.57	270	Jr. 3.	426 ..	Designs Ruler (Imp.)
Belgonia Junette 5th ..	60541	17.9.38	22½	7,751	5·47	423·71	230	Jr. 2	.. ..	Designs Ruler (Imp.)
Masters, S. H., Murraydale, Jersey (8).										
Rutland Bright Stockings 3rd	Vol. 26	5.8.38	19½	6,357	5·71	363·04	230	Jr. 2	.. ..	Kings Vale Lauder
Rutland Brunette 6th ..	50524	11.9.38	17	7,790	5·19	404·00	350	Mature	292, 405, 382, 407	Rutland Rover
Rutland Brunette 10th ..	59354	24.8.38	23	8,684	5·23	453·82	310	Jr. 4	335, 384 ..	Kings Vale Lauder
Rutland Brunette 11th ..	59355	1.7.38	22	7,625	4·87	371·55	290	Sr. 3	265, 331 ..	Kings Vale Lauder
Rutland Brunette 12th ..	59356	9.9.38	19	7,755	5·08	394·23	310	Jr. 4	316, 373 ..	Kings Vale Lauder
Rutland Brunette 13th ..	59357	12.9.38	15½	7,875	5·41	425·77	310	Jr. 4	305, 395 ..	Kings Vale Lauder
Rutland Brunette 15th ..	64152	15.9.38	15½	7,400	5·33	394·57	270	Jr. 3	298 ..	Kings Vale Lauder
Rutland Brunette 16th ..	64153	12.9.38	20	8,015	5·66	453·66	270	Jr. 3	363 ..	Kings Vale Lauder

* 240 days in test. † 240 days in test (sold). ‡ 210 days in test (sold).

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Meaklim Bros., Mooroopna, Dairy Shorthorn (2).										
Drumneil Countess ..	D.S.H.B.	12.7.38	30	9,950	3·72	369·73	350	Mature	.. ..	Willow Park Reformer
Drumneil Jean ..		27.7.38	33	11,786	4·33	509·99	350	Mature	.. ..	Bounty of Darbalara
Mesley, W. T., Dalvston, Jersey (8).										
Warenda Dalmonte 7th ..	59926	25.8.38	16½	6,246	4·60	287·35	290	Sr. 3	273 ..	Warenda Perpetuate
Warenda Gazelle 15th ..	C.R.	13.9.38	11	7,024	4·75	333·85	250	Sr. 2	176 ..	Warenda Perpetuate
Warenda Gazelle 18th ..	C.R.	12.9.38	8½	4,252	5·40	230·00	230	Jr. 2	.. ..	Riverbank Royal Exchange
Warenda Mandoline 10th ..	51105	14.8.38	6	5,993	5·30	317·88	330	Sr. 4	387 ..	Warenda Perpetuate
Warenda Mandoline 11th ..	51106	7.7.38	13	5,870	5·39	316·18	310	Jr. 4	306 ..	Warenda Perpetuate
Warenda Mandoline 13th ..	64813	21 8.38	18	6,329	5·55	351·50	290	Sr. 3	360 ..	Warenda Perpetuate
Warenda Philomel 6th ..	64815	29.7.38	10½	4,712	6·16	290·13	250	Sr. 2	223 ..	Warenda Perpetuate
Warenda Agnes 6th ..	46599	4.7.38	16	7,239	4·77	345·58	350	Mature	345, 425 ..	Belgonia Air King
Mitchell, R. H., Linton, Jersey (4).										
Clifford Farm Gladsome ..	32965	12.8.38	8½	7,764	5·85	454·03	350	Mature	411, 465, 472, 367	Clifford Farm Eliminator
Clifford Farm Joyous Melody	52272	1.7.38	19½	8,084	5·68	459·23	330	Sr. 4	379, 408 ..	Wompini V.C.
Clifford Farm Lady Jean ..	43401	2.7.38	27½	9,294	5·16	479·77	350	Mature	389, 448 ..	Wompini V.C.
Clifford Farm Norma ..	61102	21.9.38	10	4,335	6·59	285·72	250	Sr. 2	375 ..	Wompini V.C.
Moore, J., and Co., Yarram, Jersey (13).										
Clarendon Eyre Camille 14th	61085	4.8.38	11½	4,508	4·62	208·26	250	Sr. 2	.. ..	Rochette's Golden (Imp.)
Rydon Belle	41920	12.7.38	26	6,951	5·03	350·00	350	Mature	347, 400, 355, 345	Melrose Migrant
Rydon Onyx 2nd ..	41927	29.8.38	17½	7,007	4·90	343·38	350	Mature	306, 348, 273	Melrose Migrant
Tooloonook Heather 2nd ..	50883	9.8.38	21	6,869	4·41	302·98	350	Mature	228, 291, 334, 396, 332	Heroic of Somerville
Tooloonook Heather 5th ..	64597	2.7.38	16½	5,030	4·76	239·52	270	Jr. 3	207 ..	Anfield Diadem's Masterpiece
Tooloonook Lilac Bloom ..	33542	8.7.38	11½	4,370	5·08	221·84	350	Mature	263, 342, 355, 265, 286, 307, 326	Heroic of Somerville
*Tooloonook Maiden 4th ..	50885	27.8.38	4	5,385	4·26	229·35	350	Mature	231, 162, 283, 304	Heroic of Somerville
Tooloonook Molly 5th ..	59756	30.8.38	12½	6,299	4·72	297·25	350	Mature	173, 308, 365	Tooloonook Belle's Hero
Tooloonook Peach ..	33545	4.9.38	25½	8,912	4·49	400·07	350	Mature	282, 358, 338, 384, 411, 432, 444	Tooloonook Carob's Hero
Tooloonook Trixie 6th ..	33549	18.7.38	11½	5,511	4·83	266·05	350	Mature	208, 404, 281, 174, 326, 307	Heroic of Somerville
Tooloonook Trixie 13th ..	46473	1.8.38	27	7,260	4·55	330·26	350	Mature	260, 310, 243, 364, 375	Tooloonook Plumbago's Hero 2nd
Tooloonook Trixie 15th ..	59759	2.9.38	15	6,000	4·98	298·58	350	Mature	262, 294, 281, 308	Tooloonook Carot's Hero
Tooloonook Verbena 9th ..	64604	7.8.38	15½	4,988	5·64	281·57	250	Sr. 2	296 ..	Anfield Diadem's Masterpiece
Murdoch, J., and Son, Lismore, Jersey (4).										
Ismalia Countess ..	62229	26.8.38	14	4,602	4·97	233·22	230	Jr. 2	.. ..	Orphanage Mabel's Chief
Ismalia Garenne	57781	28.8.38	13½	5,159	5·67	292·35	250	Sr. 2	282 ..	Orphanage Molly's Thorn
Murona Garenne ..	54325	25.9.38	14½	5,535	5·58	309·07	330	Sr. 4	312, 382 ..	Banyule Airpoise
*Murona Petal 8th ..	54326	3.7.38	4	5,130	5·05	259·14	290	Sr. 3	238 ..	Retford King Bracken
Nancarrow Bros., Kerang, Jersey (10).										
Belgonia Design's Buttercup	42917	26.8.38	5	5,927	5·49	325·51	350	Mature	352, 380, 339	Design's Ruler (Imp.)
Belgonia Design's Peggy 12th	51701	23.9.38	N.o.c.	5,995	5·51	330·60	310	Jr. 4	362 ..	Design's Ruler (Imp.)
Belgonia Peggy 9th ..	37898	8.8.38	21	8,039	4·58	368·16	350	Mature	354, 417, 450, 482, 540, 425	Aveley Rex
Bellaire Molly 8th ..	37975	13.8.38	22½	9,088	5·52	501·40	350	Mature	422, 430, 479, 539, 552, 460	Werribee Fancy Clementine's King
Pine Ridge Countess 3rd ..	Vol. 26	24.9.38	19	6,554	5·46	358·10	230	Jr. 2	.. ..	Duke of the Lake (Imp.)
Pine Ridge Hawthorn 2nd	63730	6.9.38	23	8,699	4·96	431·69	270	Jr. 3	296 ..	Duke of the Lake (Imp.)
Pine Ridge Molly ..	63731	3.9.38	12½	6,694	6·09	407·93	270	Jr. 3	285 ..	Duke of the Lake (Imp.)
Pine Ridge Molly 2nd ..	Vol. 26	28.8.38	22½	7,860	5·63	442·82	230	Jr. 2	.. ..	Duke of the Lake (Imp.)
Pine Ridge Rose Dream ..	63732	22.8.38	26	7,994	5·10	407·51	250	Sr. 2	241 ..	Duke of the Lake (Imp.)
Pine Ridge Silvermine 2nd	58999	29.8.38	13	7,814	5·51	430·93	290	Sr. 3	315, 334 ..	Duke of the Lake (Imp.)
Nicholas, M. A., Sherbrooke, Jersey (18).										
Brampton Champion's Blonde (Imp.)	56038	31.7.38	15½	6,633	5·75	381·41	250	Sr. 2	356 ..	Brampton Champion's Son of
Brampton Champion's Girl (Imp.)	56039	3.8.38	18	7,470	5·32	397·57	270	Jr. 3	457 ..	Brampton Champion's Son of
Brampton Champion's Mary (Imp.)	56041	7.9.38	14	6,311	5·70	359·96	290	Sr. 3	346 ..	Brampton Champion's Son of
Brampton Champion's Pansy (Imp.)	56043	19.8.38	4½	4,386	4·71	206·40	270	Jr. 3	216 ..	Brampton Champion's Son of
Brampton Standard Dream 2nd (Imp.)	56047	8.9.38	21	7,944	5·42	430·56	290	Sr. 3	358, 384 ..	Brampton Sporting Standard

*. 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Nicholas, M. A. Sherbrooke—*continued.*										
Brampton Standard Free Girl (Imp.)	56049	15.7.38	11½	6,059	5·84	353·83	290	Sr. 3	320, 385 ..	Brampton Sporting Standard
Brampton Standard Nelly (Imp.)	56050	22.8.38	7	5,573	5·64	314·47	270	Jr. 3	285 ..	Brampton Sporting Standard
Jubilee Maple	38343	13.7.38	9	6,504	4·48	291·44	350	Mature	323, 281, 328, 390, 361, 330	Jubilee Whatlight
Selsey Brown May ..	50566	12.7.38	31	9,590	6·23	597·13	350	Mature	496, 422, 534	Retford Glider
Selsey Fancy Wyandotte ..	64219	4.9.38	17	5,690	5·66	322·10	230	Jr. 2	.. ..	Selsey Great Master
Selsey Great Clementine ..	64220	27.8.38	14	5,132	6·59	338·12	230	Jr. 2	.. ..	Brampton Great Boy (Imp.)
Selsey Jersey Lily ..	64221	3.9.38	22½	6,878	5·52	379·83	230	Jr. 2	.. ..	Selsey Brampton Boy
Selsey Maple 3rd ..	59412	6.7.38	17½	7,067	4·99	352·90	250	Sr. 2	296 ..	Brampton Great Boy (Imp.)
Selsey Rosecleaf 2nd ..	55211	21.9.38	24	9,038	5·68	513·00	310	Jr. 4	367, 420 ..	Brampton Great Boy (Imp.)
Selsey Rosecleaf 3rd ..	59413	20.8.38	13½	5,907	5·21	307·77	250	Sr. 2	335 ..	Brampton Great Boy (Imp.)
Selsey Wynadotte ..	41949	1.9.38	15	7,035	6·68	469·85	350	Mature	319, 474, 430, 522	Werribee Wyandotte's King
Soeurette Franchise (Imp.)	56057	28.8.38	12½	6,729	4·64	311·90	350	Mature	431, 395 ..	Soeurette Fern's Oxford
Selsey Free Girl ..	65061	18.8.38	9	4,017	5·83	234·27	230	Jr. 2	.. ..	Wonderful Standard 2nd (Imp.)
Noble, T. M., and Sons, Maffra, Jersey (9).										
Finchley Handsome Lady..	37993	9.7.38	25½	7,817	6·94	542·70	350	Mature	420, 439, 652, 586, 582	Werribee Lord Burnham
Finchley Lady Burnham ..	48129	25.9.38	15	6,224	7·00	435·77	350	Mature	328, 384 ..	Werribee Lord Burnham
Finchley Lady Peerless ..	39742	18.9.38	9	6,697	5·93	396·93	350	Mature	.. ..	Werribee Lord Burnham
Finchley Lady Peerless 3rd	61607	1.7.38	19½	7,190	5·71	410·60	230	Jr. 2	.. ..	Finchley Masterman
Finchley Master's Canary ..	52727	24.9.38	18	7,649	6·14	469·73	350	Mature	388, 477, 481	Finchley Masterman
Finchley Nasturtium 5th ..	61613	16.7.38	25	7,473	6·04	451·40	230	Jr. 2	.. ..	Werribee Lord Burnham
Finchley Nasturtium 6th ..	61614	3.9.38	13½	5,363	6·63	355·76	230	Jr. 2	.. ..	Finchley Masterman
Selsey Myrtle	64222	23.8.38	16½	6,065	5·29	320·74	230	Jr. 2	.. ..	Brampton Great Boy (Imp.)
Linga Longa Wattle Speck..	25574	25.9.38	25	8,660	5·15	445·63	350	Mature	317, 373, 410, 492, 558, 468, 480, 499, 521, 450	Canary's Handsome Boy of Linga Longa
Norman, J. G., Pennyroyal, Jersey (20).										
Banaview Cornflower 2nd	C.R.	7.8.38	20	5,853	4·99	292·10	230	Jr. 2	.. ..	Banaview Design's Master
Banaview Daffodil ..	60476	21.8.38	19	7,282	4·71	343·07	270	Jr. 3	306 ..	Banyarra Nova
Banaview Clementine ..	60475	22.7.38	18½	6,206	5·60	347·23	250	Sr. 2	301 ..	Banyarra Nova
Banaview Design ..	C.R.	22.8.38	19	6,618	4·78	316·52	250	Sr. 2	279 ..	Banyarra Nova
Banaview Design 2nd ..	C.R.	8.8.38	18½	5,925	4·69	277·78	230	Jr. 2	.. ..	Banaview Silvermine's Sultan
Banaview Jonquil ..	47104	23.7.38	31½	9,650	4·71	454·91	350	Mature	335, 387, 430	Kantara Starbright's Sultan
Banaview Lilac Domino 2nd	51635	24.7.38	24½	7,874	6·30	495·74	330	Sr. 4	296, 447, 390	Banyarra Nova
Banaview Lilac Domino 4th	56240	6.8.38	18	6,924	5·69	393·86	290	Sr. 3	298, 427 ..	Banaview Silvermine's Sultan
Banaview Lilac Domino 5th	C.R.	19.9.38	17	8,879	5·26	467·43	270	Jr. 3	360 ..	Banaview Silvermine's Sultan
Banaview Lilac Domino 7th	60478	24.7.38	25	8,400	4·72	396·19	250	Sr. 2	285 ..	Banaview Silvermine's Sultan
Banaview Silvermine 2nd ..	60479	14.8.38	5	5,940	5·64	335·17	270	Jr. 3	305 ..	Banaview Silvermine's Sultan
Banaview Silvermine 3rd ..	C.R.	18.7.38	21	6,963	5·36	373·42	250	Sr. 2	293 ..	Banyarra Nova
Banaview Silvermine 4th ..	C.R.	13.8.38	14½	5,117	5·30	271·41	230	Jr. 2	.. ..	Banaview Design's Master
Banaview Springflower ..	47106	20.7.38	26	8,919	3·98	354·73	350	Mature	335, 327, 379	Kantara Starbright's Sultan
Banaview Sunflower 2nd ..	C.R.	2.9.38	29	8,157	4·71	384·45	230	Jr. 2	.. ..	Banaview Design's Master
Banaview Wildflower 2nd	C.R.	23.8.38	25½	7,626	5·12	390·58	230	Jr. 2	.. ..	Banaview Design's Master
Kantara Jonquil ..	40488	13.7.38	19	7,977	4·88	389·38	350	Mature	412, 491, 460, 464	Glen Iris Valiant Count
Kantara Silvermine ..	40491	16.9.38	16	8,547	5·52	472·07	350	Mature	505, 576, 578, 504	Ku Ku Fashion Plate (Imp.)
Selsey Clementine 2nd ..	55205	7.8.38	12½	7,287	6·56	477·92	350	Mature	435, 470 ..	Brampton Great Boy (Imp.)
Selsey Design	50567	6.8.38	22	9,144	4·90	448·02	350	Mature	390, 475, 485	Design's Ruler (Imp.)
O'Neil, J., Echuca, Jersey (2).										
Ullina Bluebell	55673	22.7.38	22	7,337	4·89	358·42	330	Sr. 4	342, 307 ..	Ballara Fancy's King
Ullina Heather Belle 2nd ..	59830	31.7.38	16	6,243	5·86	365·96	290	Sr. 3	332, 342 ..	Kyora Dream's Gadget 2nd
Parks, L. A., and Sons, Romsey, Guernsey (1).										
*Torwood Gem	6411	13.9.38	22½	6,660	5·48	364·97	290	Sr. 3	194 ..	Melbourne Golden Sequel
Pattison, F., Tongala, Ayrshire (5).										
Willow Park Ada ..	C.R.	6.8.38	21	6,303	3·86	243·50	230	Jr. 2	.. ..	Fulham Beam
Willow Park Jean ..	25567	14.9.38	18½	7,625	3·59	274·11	350	Mature	269, 300, 322, 313	Willow Park Prince
Willow Park Pauline ..	C.R.	25.8.38	17½	6,428	4·52	290·33	230	Jr. 2	.. ..	Fulham Beam
Willow Park Princess ..	26809	24.8.38	20	8,999	3·90	351·03	350	Mature	270, 297, 285	Willow Park Prince
Willow Park Poppy ..	25568	2.7.38	4	7,463	4·27	318·82	350	Mature	352, 407, 372 376	Willow Park Prince

*240 days in test (withdrawn on account of sickness).

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Payne, A. E. T., Lilydale, Guernsey (11).										
Marose of Kings Mills (Imp.)	6660	10.8.38	23	8,229	4·61	379·05	330	Sr. 4	303 ..	Majestic of Kings Mills
Nundorah Golden Daffodil 2nd	2814	4.8.38	34	13,647	4·12	561·84	350	Mature	390, 396 ..	Nundorah Golden Sovereign
Yarraview Charm ..	5163	29.7.38	21½	10,020	4·97	498·20	310	Jr. 4	325, 377 ..	Camilla's Majestic of Maple Lodge (Imp.)
Yarraview Delight ..	5167	20.8.38	14	8,685	5·24	455·46	350	Mature	400, 452 ..	Camilla's Majestic of Maple Lodge (Imp.)
Yarraview Fancy ..	6634	9.8.38	24	7,404	5·20	385·21	250	Sr. 2	.. ..	Hope's Champion of the Roubets
Yarraview Iris	8210	12.8.38	29	8,202	5·41	443·99	230	Jr. 2	.. ..	Honoria's Benefactor (Imp.)
Yarraview Le Mode ..	8225	24.9.38	33	10,497	5·36	562·55	230	Jr. 2	.. ..	Camilla's Majestic 3rd of Maple Lodge
Yarraview Rouge ..	8217	4.9.38	29½	9,191	4·84	444·81	230	Jr. 2	.. ..	Honoria's Benefactor (Imp.)
Yarraview Ruby ..	5178	29.8.38	14	9,417	4·53	427·05	310	Jr. 4	378, 394 ..	Camilla's Majestic of Maple Lodge (Imp.)
Yarraview Sundrop ..	6645	25.9.38	7½	6,156	4·98	306·59	250	Sr. 2	350 ..	Yarraview Sunrise
Yarraview Teeney ..	6648	21.7.38	17	8,919	5·17	460·88	250	Sr. 2	.. ..	Camilla's Majestic of Maple Lodge (Imp.)
Powell, T. S., Mansfield, Jersey (7).										
Carellen Fancy Clementine ..	Vol. 26	14.9.38	12	6,212	5·42	336·45	230	Jr. 2	.. ..	Wompini Vagabond King
Monterey Maid	49602	19.8.38	19	11,099	4·69	520·32	350	Mature	428, 460 ..	Mornmoot Starbright King
Monterey Maid's Mermaid ..	58528	19.7.38	22	7,747	4·85	375·62	310	Jr. 4	442, 439 ..	Rosecliff Mariposa's Master
Monterey Melody's Mascot ..	58530	15.7.38	25½	10,632	5·14	546·76	310	Jr. 4	420, 398 ..	Rosecliff Mariposa's Master
Mornmoot Starbright 2nd ..	54254	30.8.38	12	6,066	5·17	313·74	270	Jr. 3	319 ..	Werribee Prince Madeira
Mornmoot Stellar Princess ..	45272	3.9.38	12½	7,737	5·06	391·76	350	Mature	349, 428, 391	Werribee Prince Madeida
Wompini Anna Carlovna ..	60084	7.9.38	27	10,404	5·86	610·17	310	Jr. 4	375, 432 ..	Werribee Butter King
Phillips, J. H., Speewa, Jersey (3).										
Ryelands Dainty Maid ..	64159	15.8.38	23	7,497	4·92	368·70	250	Sr. 2	267 ..	Ryelands Black Prince
Ryelands Nanette ...	64160	3.8.38	11½	5,948	5·42	322·20	250	Sr. 2	236 ..	Orphanage Zafferine's Prince
Ryelands Vanilla Slice ..	64161	12.7.38	16½	5,945	5·88	349·79	270	Jr. 3	263 ..	Orphanage Zafferine's Prince
Raggatt, F., Tongala, Jersey (6).										
Strathbow Goldie 9th ..	37637	24.7.38	22	8,079	5·36	433·21	350	Mature	290, 353, 414	Banyule Mollerne
Strathbow Goldie 10th ..	38090	10.7.38	21½	7,802	5·49	428·02	350	Mature	312, 425, 419, 351	Banyule Mollerne
Strathbow Goldie 11th ..	46226	22.7.38	17½	8,106	5·34	432·57	350	Mature	321, 416 ..	Duke of the Lake (Imp.)
Strathbow Goldie 16th ..	59521	20.9.38	15½	6,737	5·66	381·63	250	Sr. 2	290 ..	Grangelea Dapper
Strathbow Goldie 19th ..	64327	14.8.38	19	6,299	5·84	368·16	230	Jr. 2	.. ..	Grangelea Dapper
Strathbow Heather Bell 5th	55313	20.7.38	22	8,087	5·18	418·67	290	Sr. 3	297 ..	Grangelea Dapper
Read, J. D., Springhurst, Jersey (9).										
Springhurst Angelica Tecoma	50619	2.8.38	17½	6,797	5·67	385·57	350	Mature	359, 418, 489	Bellefaire Seaborn Successor
Springhurst Aniline Lily ..	59480	15.8.38	16	6,290	5·73	360·26	230	Jr. 2	.. ..	Springhurst Design's Analyst
Springhurst Aniline Narcissus	55270	8.8.38	28	8,348	5·20	434·50	270	Jr. 3	344 ..	Springhurst Design's Analyst
Springhurst Blonde Alsyke	50623	24.7.38	10	6,705	5·73	384·12	310	Jr. 4	269, 432 ..	Bellefaire Seaborn Successor
Springhurst Gamboge Tomato	55277	26.8.38	26	9,528	5·25	500·00	270	Jr. 3	403 ..	Bellefaire Seaborn Successor
Springhurst Sybil Lily ..	41998	1.8.38	19½	8,040	5·26	423·18	350	Mature	432, 551, 509, 542, 509	Bellefaire Seaborn Successor
Springhurst Sybil Medick	41999	3.8.38	14½	6,209	6·46	401·36	350	Mature	356, 376, 524, 577, 557	Bellefaire Seaborn Successor
Springhurst Sybil Soya ..	50634	2.7.38	29	11,847	5·07	601·14	310	Jr. 4	392, 442 ..	Bellefaire Seaborn Successor
Springhurst Sybil Tulip ..	55281	5.7.38	23	8,526	5·77	492·28	290	Sr. 3	329, 425 ..	Springhurst Golden Gamboge
Richardson, W. S., Bacchus Marsh, Jersey (1).										
Sutton Lea Ueline ..	46289	25.9.38	15	6,648	5·78	383·99	350	Mature	269, 449, 361	Sutton Lea Charnap
Ronalds, O., Tarago, Jersey (3).										
Jindivick Heroine 8th ..	57868	26.8.38	20½	9,909	4·54	449·60	310	Jr. 4	440 ..	Somerville Master Babs
Jindivick Valda's Lass ..	62334	1.8.38	16½	8,439	4·55	383·67	290	Sr. 3	396 ..	Somerville Master Babs
Somerville Northern Princess 3rd	46156	30.8.38	18½	8,225	4·76	391·66	350	Mature	258 ..	Somerville Reputation
Salesian College, Sunbury, Friesian (3).										
Enterprise Lady Griselda ..	4530	7.8.38	15	9,938	4·48	445·14	350	Mature	313, 312, 426	Graindale Longbeach Hero
Rupertswood Inka Josie ..	4924	20.8.38	20	14,281	3·67	524·64	350	Mature	270 388, ..	Cordyline Cremona
Rupertswood Lady Griselda	C.R.	21.8.38	N.o.c.	9,326	3·72	346·90	270	Jr. 3	303 ..	Victoria Freedom
Shearman, A., and W., Darnum, Jersey (10).										
Darnum Park Eminence's Haha	61261	30.7.38	24	7,257	4·99	362·03	310	Jr. 4	361, 414 ..	Darnum Park Starbright's Masterpiece
Darnum Park Leonie ..	61262	29.7.38	11	4,291	5·69	244·31	270	Jr. 3	232, 226 ..	Darnum Park Starbright's Masterpiece
Darnum Park Molly Haha 2nd	61264	18.9.38	9	3,278	5·85	191·72	250	Sr. 2	240 ..	Darnum Park Starbright's Masterpiece
Darnum Park Princess ..	61266	25.8.38	12½	6,432	5·87	377·73	290	Sr. 3	312, 343 ..	Darnum Park Starbright's Masterpiece

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Shearman, A., and W., Darnum—*continued.*										
Darnum Park Royal Duchess	61268	17.8.38	9	4,742	5·75	272·60	290	Sr. 3	264, 232 ..	Darnum Park Starbright's Masterpiece
Darnum Park Starbright ..	61269	17.8.38	17½	6,391	6·14	392·45	270	Jr. 3	441 ..	Darnum Park Starbright's Masterpiece
Oak Park Princess 2nd ..	41321	18.9.38	18	7,284	5·08	370·02	350	Mature	365, 490, 392, 453	Brucevale Lord Fancy Attraction
*Oak Park Royal Duchess..	45496	20.8.38	4	5,520	6·16	340·17	350	Mature	368, 469, 430, 413	Brucevale Lord Fancy Attraction
Sleep Valley Milkmaid ..	59447	28.7.38	17	5,798	5·98	346·85	350	Mature	315, 470, 463, 389, 381	Holly Dell Twylish
Wompini Leonie 12th ..	Vol. 26	5.8.38	9½	3,749	5·91	221·60	250	Sr. 2	234 ..	Wompini Erl King
Shearn, J., Jindivick, Jersey (4).										
Jindivick Heroine 13th ..	Vol. 26	17.9.38	6	4,035	5·67	228·84	230	Jr. 2	.. ..	Jindivick Airman
Jindivick Princess ..	Vol. 26	6.9.38	10	5,571	5·11	284·69	230	Jr. 2	.. ..	Jindivick Airman
Jindivick Rarity ..	Vol. 26	18.7.38	11½	5,579	5·96	332·46	250	Sr. 2	.. ..	Somerville Master Babs
Jindivick Valda's Queen ..	Vol. 26	30.7.38	17	6,632	4·90	325·12	250	Sr. 2	.. ..	Somerville Master Babs
Smith Bros., Mirboo North, Jersey (31).										
Sylvan Hill Alma Belle ..	42089	27.7.38	20	6,269	5·18	324·49	350	Mature	279, 349, 400, 329, 352, 354	Somerville Heir Apparent
Sylvan Hill Beauty ..	38277	23.9.38	13½	6,281	5·71	358·53	350	Mature	435, 375, 405, 359, 421, 323	Somerville Heir Apparent
Sylvan Hill Belle ..	Vol. 26	31.8.38	9	3,810	6·16	234·60	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Bluebell ..	50735	3.8.38	26	7,742	5·11	395·78	350	Mature	345, 321, 405	Somerville Heir Apparent
Sylvan Hill Bonnie Mary..	55377	27.7.38	18½	6,867	5·65	387·89	350	Mature	301, 409, 421	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Bouquet ..	59600	11.8.38	9	3,747	7·23	270·95	290	Sr. 3	264, 317 ..	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Brunette ..	59601	12.8.38	17½	5,133	5·56	285·55	310	Jr. 4	223, 254 ..	Sylvan Hill Starlight's Pride
Sylvan Hill Buttercup ..	46299	19.8.38	19½	6,663	5·81	387·32	350	Mature	256, 373, 423, 382	Somerville Heir Apparent
Sylvan Hill Charm ..	46300	14.7.38	21½	7,172	4·73	339·28	350	Mature	286, 426, 347, 432, 368	Somerville Heir Apparent
Sylvan Hill Charmaine ..	55378	1.8.38	14½	5,123	5·76	294·50	350	Mature	232, 344, 365	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Duchess ..	50736	31.7.38	22	7,590	5·44	412·66	350	Mature	409, 350, 427, 511	Somerville Heir Apparent
Sylvan Hill Empire Queen..	50737	31.7.38	18	6,599	5·17	341·13	350	Mature	311, 306, 379, 393	Somerville Heir Apparent
Sylvan Hill Gaypiece ..	Vol. 26	27.8.38	12½	5,099	5·22	266·05	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Handsome Bell..	64407	30.7.38	14	4,298	6·53	280·80	250	Sr. 2	295 ..	Glen Iris Bow Bells
Sylvan Hill Handsome Girl	33762	2.8.38	18½	6,518	6·16	401·70	350	Mature	419, 360, 429, 381, 450, 400	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Joyful ..	50738	28.7.38	16½	8,331	5·46	454·81	350	Mature	345, 337, 397, 471	Somerville Heir Apparent
Sylvan Hill Lady Alma ..	38282	12.8.38	18	7,344	4·89	359·48	350	Mature	363, 364, 409, 380, 500, 442	Somerville Heir Apparent
Sylvan Hill Larkspur ..	Vol. 26	22.9.38	9½	4,319	6·24	269·65	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Meadow Queen	55381	21.9.38	9½	5,099	5·72	291·80	350	Mature	243, 348, 352	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Molly's Bell ..	64412	27.7.38	14	5,910	5·55	327·83	250	Sr. 2	252 ..	Glen Iris Bow Bells
Sylvan Hill Noble Lady ..	38283	22.7.38	16	5,988	5·60	335·25	350	Mature	304, 304, 325, 305, 369, 331	Somerville Heir Apparent
Sylvan Hill Noble Maid ..	Vol. 26	3.9.38	11	4,625	5·67	262·40	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Opal ..	59606	26.7.38	15	4,908	6·31	309·50	290	Sr. 3	331, 396 ..	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Peeress ..	46302	17.9.38	15	6,843	5·28	361·03	350	Mature	276, 371, 368, 421, 299	Sylvan Hill Starlight's Pride
Sylvan Hill Primrose ..	38284	4.8.38	19	6,874	4·85	333·18	350	Mature	392, 376, 460, 428, 377, 387	Somerville Heir Apparent
Sylvan Hill Sparkle ..	46305	11.8.38	21½	8,805	4·87	428·91	350	Mature	306, 389, 401, 423	Somerville Heir Apparent
Sylvan Hill Sunflower ..	46307	29.7.38	19	7,491	6·27	469·95	350	Mature	346, 423, 375, 403	Somerville Heir Apparent
Sylvan Hill Sunlight ..	55383	24.9.38	8½	5,750	5·62	323·12	350	Mature	264, 302, 245	Sylvan Hill Starlight's Pride
Sylvan Hill Sweet Maid ..	Vol. 26	3.9.38	10	4,112	5·85	240·61	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Vanilla ..	Vol. 26	20.8.38	10	4,050	5·57	225·60	230	Jr. 2	.. ..	Glen Iris Bow Bells
Sylvan Hill Vanity ..	50740	12.9.38	13	6,999	5·32	372·16	350	Mature	321, 309, 373, 393	Somerville Heir Apparent
Stephens Dr., F. G., Vermont, Guernsey (3).										
Bangalam Vale Fairy ..	3975	14.8.38	22½	8,916	4·58	403·39	350	Mature	332, 356, 341	Minnamurra Sequal Slogan
Vermont May Belle ..	5187	12.9.38	15½	8,878	4·69	416·27	350	Mature	345, 367 ..	Majestic of Kings Mills
†Vermont May's Ena ..	8009	24.8.38	..	5,153	4·47	230·28	230	Jr. 2	.. ..	Yarraview Bob

* 240 days in test.

† 240 Days in test (sold).

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Stirling, H. V., Meade, Jersey (2).										
Banyule Ishta	51650	4.9.38	14	7,275	5·14	373·71	250	Sr. 2	347 ..	Banyule Pitman
Coimbra Silver Queen ..	61131	25.7.38	10	4,915	5·51	270·62	230	Jr. 2	.. ..	Banyule Statoscope
Tait, W. G., Dreeite, Jersey (1).										
Stonybank Snowdrop 2nd..	Vol. 26	1.7.38	18	7,059	5·95	419·67	290	Sr. 3	.. ..	Melrose Curio
Thomas and Taylor, Hamilton, Ayrshire (4).										
Carracoorte Betsy 22nd ..	24674	22.8.38	16½	9,945	4·23	420·73	350	Mature	313, 389, 355, 393	Blue Bell's Pride of Glencourt
Carracoorte Bunty 16th ..	24684	15.7.38	14	8,411	4·96	417·43	350	Mature	295, 384, 353, 422	Carracoorte Pilot
Carracoorte Lillian 7th ..	27012	15.9.38	22	8,192	5·20	425·70	350	Mature	341, 292, 330	Carracoorte Panic
Jennewar Beauty ..	30709	30.8.38	14½	7,853	4·19	329·10	290	Sr. 3	290 ..	Denbigh Ace
Tomasetti, B. G., Drouin West, Ayrshire (11).										
Alvaston Aster	C.R.	21.8.38	18½	5,078	4·87	247·20	230	Jr. 2	.. ..	Cathcart Masterpiece
Alvaston Audrey ..	C.R.	23.9.38	20	5,084	4·00	203·23	230	Jr. 2	.. ..	Cathcart Masterpiece
Alvaston Fairy	C.R.	24.8.38	20	5,813	3·90	226·76	230	Jr. 2	.. ..	Cathcart Masterpiece
Alvaston Margot ..	C.R.	19.8.38	20	5,726	4·10	234·95	230	Jr. 2	.. ..	Cathcart Masterpiece
Glencorren Dairymaid ..	31413	23.9.38	28	9,184	3·70	340·00	250	Sr. 2	272 ..	Holly Green Design
Glencorren Gracie ..	31415	24.9.38	28	8,553	4·25	363·33	270	Jr. 3	309 ..	Tregorland King
Glencorren Hallmark ..	C.R.	14.8.38	19	6,619	3·92	259·44	330	Sr. 4	210, 321 ..	Scotswood Michael 2nd
Glencorren Lilac	22832	4.7.38	21½	8,537	4·77	406·91	350	Mature	393, 378, 488, 539, 400	Scotswood Michael 2nd
Glencorren Valmai ..	30530	23 7.38	13	6,891	4·61	317·35	310	Jr. 4	234, 320 ..	Scotswood Michael 2nd
Glencorren Venus ..	26202	3.7.38	22½	9,383	4·12	386·37	350	Mature	254, 356, 311, 409	Scotswood Michael 2nd
Rayak Seagull	31692	2.7.38	26	7,616	3·90	296·68	250	Sr. 2	.. ..	Denbigh Gold King
Trevaskis, F. T., Tongala, Jersey (7).										
Ballara Flower 5th ..	47093	1.9.38	23½	7,317	4·59	336·08	330	Sr. 4	264 ..	Ballara Neat Lad
Ballara Flower 7th ..	60445	26.7.38	19	5,919	5·05	298·76	230	Jr. 2	.. ..	Kyora Dream's Gadget 2nd
Ballara Ideal 7th ..	56227	14.9.38	21	6,963	5·11	355·53	270	Jr. 3	325 ..	Kyora Dream's Gadget 2nd
Ballara Ideal 8th ..	60446	19.8.38	16	4,988	5·40	269·12	230	Jr. 2	.. ..	Kyora Dream's Gadget 2nd
Ballara Model 13th ..	60448	29.8.38	15	5,202	4·43	230·22	230	Jr. 2	.. ..	Werribee Twylish Master
Carinya Black Rose ..	52138	30.8.38	21	8,465	4·98	421·43	310	Jr. 4	310 ..	Werribee Twylish Master
The Valley Frisky Stumpy	59696	19.9.38	26	8,111	5·29	429·31	310	Jr. 4	366 ..	Glen Iris Beau
Trewin, J. V., Nathalia, Jersey (7).										
Belgonia Blossom 7th ..	29112	25.7.38	31	8,940	4·88	436·50	350	Mature	474, 484, 411	Aerial of Banyule
Weir View Blossom's Design	50116	17.9.38	6	7,013	5·08	356·38	310	Jr. 4	354 ..	Designs Ruler (Imp.)
Weir View Golden Design..	55819	14.7.38	23	7,767	5·38	417·95	250	Sr. 2	330 ..	Designs Ruler (Imp.)
Weir View Golden Design 2nd	59968	3.9.38	23½	8,232	5·80	477·49	250	Sr. 2	323 ..	Weir View Golden Duke
Weir View Golden Duchess..	51161	9.7.38	28	8,726	5·06	441·22	350	Mature	385, 398, 440	Duke of the Lake (Imp.)
Weir View Golden Duchess 2nd	51162	28.8.38	23½	9,206	5·27	485·53	290	Sr. 3	347, 361 ..	Weir View Laddie 2nd
Weir View Greetings ..	42459	11.7.38	25	8,163	5·05	412·15	350	Mature	323, 434, 372	Belgonia Milk Lad
Vagg, E. J., Leongatha, Jersey (14).										
Bonnay Amanda's Doris ..	51865	19.9.38	19	7,559	4·67	352·95	350	Mature	307, 364, 402	Jerseyinn Edith's Masterpiece
Bonnay Amanda's Marina..	56463	27.6.38	17½	5,814	5·83	338·74	290	Sr. 3	324 ..	Bonnay Carrie's Master
Bonnay Amanda's Patsy ..	Vol. 26	27.8.38	17	6,026	5·54	333·77	230	Jr. 2	.. ..	Jerseyinn Edith's Masterpiece
Bonnay Jessie's Ethel ..	Vol. 26	13.8.38	17	5,409	5·04	272·55	230	Jr. 2	.. ..	Bonnay Edith's Masterstrain
Bonnay Love's Elaine ..	60727	24.8.38	5	5,078	6·20	314·62	250	Sr. 2	304 ..	Bonnay Edith's Masterstrain
Bonnay Love's Grace ..	Vol. 26	8.9.38	12½	4,412	4·66	205·49	230	Jr. 2	.. ..	Bonnay Edith's Masterstrain
Bonnay Miss Stella ..	60728	6.9.38	12	5,606	5·05	282·97	270	Jr. 3	274 ..	Jerseyinn Edith's Masterpiece
Bonnay Mona's Jessie ..	56464	17.9.38	18½	6,824	5·08	346·76	310	Jr. 4	332, 398 ..	Jerseyinn Edith's Masterpiece
Bonnay Mystery's Lilac ..	26465	23.9.38	13½	5,505	5·57	306·57	310	Jr. 4	209, 316, 350	Bonnay Love's Masterman
Bonnay Phyllis	38978	25.9.38	20	7,172	5·10	365·99	350	Mature	301, 357, 389, 364, 449, 355	Welbourne Handsome Boy
Bonnay Phyllis Laura ..	Vol. 26	26.8.38	14½	4,457	5·23	232·96	230	Jr. 2	.. ..	Jerseyinn Edith's Masterpiece
Bonnay Sweet Alice ..	Vol. 26	3.9.38	20½	6,756	4·52	305·69	230	Jr. 2	.. ..	Jerseyinn Edith's Masterpiece
Bonnay Tulip's Evelyn ..	Vol. 26	16.8.38	16½	5,610	5·91	331·37	230	Jr. 2	.. ..	Jerseyinn Edith's Masterpiece
Rosyth Lady Tulip 3rd ..	38451	16.9.38	12½	7,320	5·33	390·26	350	Mature	288, 387, 415, 446, 444, 504, 441	Lord 2nd of Brucevale
Vaughan Bros., Girgarre, Jersey (4).										
Lynroy Fancy 4th ..	62864	24.7.38	12	6,687	5·59	374·04	290	Sr. 3	382, 268 ..	Werribee Laverock
Lynroy Fay	C.R.	1.8.38	11	5,016	5·64	283·13	230	Jr. 2	.. ..	Werribee Laverock
Lynroy Glady's 4th ..	62866	29.7.38	10	5,511	5·89	324·85	250	Sr. 2	398 ..	Werribee Laverock
Lynroy Jill	C.R.	3.7.38	13	5,687	5·82	330·78	230	Jr. 2	.. ..	Werribee Laverock

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Wade, W. J., Stratford, Jersey (6).										
*Glen Iris Golden Belle ..	52814	23.8.38	4	4,555	5·02	228·68	250	Sr. 2	294 ..	Design's Golden Oxford (Imp.)
†Glen Iris Golden Viola ..	52818	17.9.38	4	2,310	5·36	123·75	270	Jr. 3	303 ..	Design's Golden Oxford (Imp.)
Inverbroom Molly's Bunty	17762	24.8.38	16	6,480	5·17	335·22	270	Jr. 3	289 ..	Grangelea Butter Boy 3rd
Inverbroom Muriel's Bunty	62213	14.9.38	13	4,074	5·40	220·13	230	Jr. 2	.. ..	Grangelea Butter Boy 3rd
Inverbroom Ruby's Bunty	57763	29.6.38	11	4,982	4·67	232·90	270	Jr. 3	228 ..	Grangelea Butter Boy 3rd
*Troed-yr-Rhiw Fydd 9th..	64655	23.8.38	4	3,915	4·70	183·90	230	Jr. 2	.. ..	Clarendon Eyre Eminent's Boomerang 4th
Walker, C. S., Swan Hill, Jersey (4).										
Grangelea Rose Marie ..	57547	25.9.38	14½	5,617	5·04	282·86	270	Jr. 3	286 ..	Grangelea Roderick
Gum Park Cream Lass ..	44232	7.7.38	21	7,113	4·93	350·72	350	Mature	266, 265, 302, 417	Bellaire Starlight
Warwick Polly 4th ..	59945	6.7.38	11	6,603	5·64	372·13	330	Sr. 4	265, 329 ..	Glen Iris Golden Lord
Warwick Princess Irene ..	38489	2.9.38	7½	6,466	4·46	288·36	350	Mature	305, 363, 317, 293, 317, 370	Chevrolet of Banyule
Warragul High School, Warragul, Red Poll (4).										
Gipps Celia	5808A	15.7.38	11½	3,710	4·15	153·98	230	Jr. 2	.. ..	Blackwood Butler
‡Gipps Fiona	2388B	26.7.38	4	7,440	3·46	257·58	350	Mature	287, 344, 264, 375, 345, 252	Woodburn Laureate
Gipps Fleta	5810A	29.8.38	20½	6,168	4·10	252·90	230	Jr. 2	.. ..	Blackwood Butler
‡Gipps Zora	2883A	8.9.38	4	6,690	3·42	228·52	350	Mature	237, 266, 370, 303, 280, 204	Woodburn Laureate
Watson, K., Pakenham Upper, Jersey (8).										
Goronga Farm Aviation ..	53001	20.7.38	21½	5,372	4·53	243·54	350	Mature	318, 333 ..	Goronga Farm Avro Avian
Goronga Farm Aviette ..	Vol. 26	26.8.38	23	5,444	4·19	228·21	270	Jr. 3	.. ..	Somerville Reputed King
Goronga Farm Empress Daffodil	Vol. 26	11.8.38	18	4,541	4·39	199·17	290	Sr. 3	.. ..	Somerville Reputed King
Goronga Farm First Flight	C.R.	29.8.38	17	4,086	5·21	212·74	230	Jr. 2	.. ..	Werribee Alanda
Goronga Farm Jester's Pearl	53006	27.8.38	22	5,400	4·52	244·06	330	Sr. 4	317, 345 ..	Goronga Farm Jester
Goronga Farm Madeira's Modesty	57522	16.8.38	14½	5,027	5·46	274·31	290	Sr. 3	265, 292 ..	Werribee Prince Madeira
Goronga Farm Star Turn..	61928	30.8.38	12½	4,184	5·49	229·58	270	Jr. 3	303 ..	Somerville Reputed King
Mornmoot Modiste 2nd ..	33140	11.7.38	15½	5,009	5·75	287·86	350	Mature	408, 353, 381, 360, 411, 453	Werribee Prince Madeira
Williams, F. A., Bamawn Extension, Jersey (8).										
Bamawm Bonnie Lass 2nd	60470	21.7.38	22½	8,709	6·33	551·57	290	Sr. 3	393 ..	Bamawm Leon
Bamawm Daisy Grey ..	Vol. 26	8.9.38	15	4,676	5·30	247·99	230	Jr. 2	.. ..	Bamawm Leon
Bamawm Mayflower ..	47101	20.9.38	19½	8,430	5·31	447·55	350	Mature	390, 450, 402	Bamawm Leon
Bamawm Miss Muffet ..	Vol. 26	13.9.38	19½	6,320	4·72	298·42	230	Jr. 2	.. ..	Bamawm Bonnie Boy
Bamawm Pretty Lady ..	56239	22.8.38	15	5,435	5·75	312·70	290	Sr. 3	366, 329 ..	Bamawm Master Gaypiece
Bamawm Princess Noella	Vol. 26	12.8.38	19½	6,225	5·27	327·85	250	Sr. 2	.. ..	Bamawm Master Gaypiece
Bamawm Princess Pamela..	47103	30.8.38	6	4,731	5·29	250·44	350	Mature	386, 404, 415, 403	Bamawm Leon
Taranah Ruby 2nd ..	42120	5.9.38	16	7,403	4·93	364·71	350	Mature	280, 335, 279, 306, 334	Duke of Invermay
Wilson, A., Port Fairy, Ayrshire (5).										
Carracoorte Balm 11th ..	19679	17.9.38	9	8,615	4·33	372·93	350	Mature	388, 363, 357, 346	Gerty's Producer of Carracoorte
Carracoorte Brownie 22nd	24681	30.8.38	16½	7,337	3·77	276·78	350	Mature	202, 241, 312, 283	Gerty's Producer of Carracoorte
Carracoorte Fuchsia 11th ..	28172	17.9.38	9	6,780	4·20	284·73	310	Jr. 4	221, 245 ..	Grandview Bernie
Green Vale Beauty 5th ..	28554	7.8.38	17	10,073	3·91	393·85	350	Mature	352 ..	Carracoorte Squire
§Jennewar Betty.. ..	31549	29.8.38	4	4,125	3·98	164·15	230	Jr. 2	.. ..	Denbigh Ace

* 250 days in test. † 210 days in test. ‡ 240 days in test. § 150 days in test.